Santa Clara Valley Water District
Adobe Creek Upper Reach 5 Restoration Project

Final Supplemental Environmental Impact Report

STATE CLEARINGHOUSE NO. 1995013041

JULY 2007

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ADOBE CREEK UPPER REACH 5 RESTORATION PROJECT

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STATE CLEARINGHOUSE NO. 1995013041

JULY 2007

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PREFACE

This Supplemental Environmental Impact Report (SEIR) has been prepared in accordance with the requirements of the California Environmental Quality Act (CEQA). CEQA Guidelines §15163 require a lead agency to prepare a SEIR to a previously-certified EIR when it determines that a) there is new information of substantial importance (e.g., changes to a project, changes to environmental setting and/or impacts, etc.), and b) only minor changes are necessary to make the previous EIR adequate.

The Adobe Creek Upper Reach 5 Project, which is the subject of this SEIR, is part of a larger, 16-reach, project to construct improvements on Adobe Creek between El Camino Real and Moody Road. The larger project was evaluated in a May 1999 Final Environmental Impact Report (1999 FEIR), which was certified by the Santa Clara Valley Water District (District) Board of Directors in October of 1999.

As described in this SEIR, the design for the project in Reach 5 has been modified from that described in the 1999 FEIR. Based upon a comparison of the revised design to the original design (see Appendix C), the District has determined that the preparation of a SEIR is warranted. Specifically, updated analyses pertaining to the following impact categories are needed to make the 1999 FEIR adequate:

- Hydrology
- Biological Resources

For all other impact categories the 1999 FEIR remains adequate.

The Draft SEIR was circulated to affected public agencies and interested parties for a 45-day review period. This document consists of all comments received by the Santa Clara Valley Water District, the Lead Agency on the Draft SEIR, responses to those comments, and revisions to the text of the Draft SEIR.

The Santa Clara Valley Water District Board of Directors prepared written findings for each significant effect of the project, as required per State Public Resources Code, Section 21002.1. The Findings of Fact by the Board of Directors are included in Appendix M of this document.

All documents referenced in the Final SEIR, including the 1999 Adobe Creek Watershed Planning Study consisting of the Engineer's Report and Final Environmental Impact Report are available for public viewing at the Santa Clara Valley Water District Headquarters office, 5750 Almaden Expressway, San Jose, California, on weekdays from 9:00 a.m. to 5:00 p.m.

Section 1 - Summary

Project Location and Overview

The Adobe Creek Upper Reach 5 Restoration Project (the "Project") is located in the City of Los Altos and Town of Los Altos Hills in Santa Clara County, California. The Project begins just upstream of the W. Edith Avenue Bridge and extends downstream for a total length of 1,100 feet. The Project has the following objectives:

- Restore the creek through repair of the eroded channel,
- Stabilize the creek banks,
- Remove accumulated sediment under W. Edith Avenue Bridge,
- Improve the channel conveyance capacity,
- Allow for overland flow during flood events, and
- Achieve the above objectives, while minimizing/avoiding environmental and right-of-way impacts to the greatest extent practical.

The Project would construct improvements in Reach 5 of Adobe Creek for the purpose of achieving the above-described objectives. The proposed improvements are a revised (and scaled-down) design from that proposed in the larger Adobe Creek Watershed Planning Study that was approved by the District in 1999. The Project would accommodate water that flows under the existing W. Edith Avenue Bridge, and overland flows entering the creek downstream of the bridge. The Project is a combination of creek channel improvements, and channel bottom and bank erosion repairs.

The Project proposes a modified natural geomorphic design with a limited channel top width for the first 500 feet and a geomorphic design with step pools for the following 200 feet. Bank stabilization and erosion repairs would be constructed in the remaining 400 feet downstream. The Project as constructed would be designed to convey a minimum flow of 1,100 cubic feet per second (cfs) in the initial floodplain portion, increasing to the 100 year capacity as the channel deepens as it exits the floodplain.

The Project would result in a net overall benefit to Adobe Creek by improving riparian and instream habitat and creating a more natural environment. This would be accomplished by replacing the existing, failing hardscape that lines much of the creek banks and the concrete channel bottom with a bio-engineered channel design that incorporates earthen banks wherever possible, boulders, and appropriate vegetation. The Project will remove two drop structures that are currently a barrier to the movement of native fish species. The creek will be modified from the existing narrow channel with vertical concrete walls to a widened earthen channel with natural design features. The overall habitat quality and quantity will be markedly improved over the existing condition.

Discussion of Environmental Impacts and Proposed Mitigation Measures

As stated in the Preface, this SEIR focuses on potential impacts involving hydrology and biological resources. All other sections of the 1999 FEIR are still applicable to the Project. The

Mitigation, Monitoring, and Reporting Program will be updated as necessary to account for changes in the project since the 1999 FEIR was certified.

Summary of Environmental Impacts

Impacts to hydrology – The Project would not provide 1 percent flood conveyance capacity within the first 600 lineal feet of Reach 5 immediately downstream of W. Edith Avenue Bridge. The depth of the overland flow and downstream extent of flooding would be less than the existing condition. The project will construct and install bank protection, but will not impede or redirect flood flows. The Project would not place structures within a 100-year flood-hazard area. The Project would result in a beneficial impact by reducing the level of flooding. No mitigation measures are proposed for hydrology.

Impacts to riparian habitat - Construction of the Project would result in 0.01 acre of permanent impacts and 0.10 acre of temporary impacts to native riparian canopy. The Project would also result in 0.05 acre of permanent impacts and 0.42 acre of temporary impacts to non-native riparian canopy. The loss of riparian canopy will be mitigated on-site by replanting ~~0.96~~ 0.76 acres of riparian trees and shrubs appropriate for Adobe Creek. Trees will be monitored for ten years or until the established success criteria are met. Impacts to riparian habitat are less than significant with mitigation.

Impacts to trees - The Project will result in the removal of 64 trees, including 11 native and 53 non-native species. Revegetating ~~0.96~~ 0.76 acres with riparian trees and shrubs will mitigate for the loss of trees. Mitigation measures will be implemented during tree removal and to protect trees during construction. Implementation of mitigation measures will ensure proper tree protection requirements and guidelines are met during Project construction. Impacts to trees are less than significant with mitigation.

Impacts to freshwater marsh – Construction of the Project would impact 0.05 acre of freshwater marsh. Freshwater marsh is expected to naturally re-colonize a portion of the creek after construction. The project reach will be monitored annually for five years after construction to ensure freshwater marsh habitat is colonizing the project reach. If freshwater marsh vegetation is not present within the project reach after the fifth year, the site will be seeded with seeds collected from Adobe Creek. Impacts to freshwater marsh are less than significant with mitigation.

Impacts to fisheries – There are no special-status fish species in the project area and native fish present are widely distributed in the region. Most aquatic organisms are expected to re-colonize impacted areas within a relatively short time following project construction. Impacts to fisheries are less than significant.

Impacts to special-status species – Special-status species discussed in this SEIR include birds, mammals, amphibians, and plants.

Special-status birds - Project construction could result in temporary disturbance to potential nest sites within trees adjacent to the project area and under W. Edith Avenue Bridge. Disturbance in nest sites from construction activities could result in nest abandonment, damage to eggs and/or chicks, and premature fledging. Mitigation measures include topping off trees prior to the nesting season, installing exclusionary netting under W. Edith Avenue Bridge and performing pre-construction surveys for active nests prior to tree removal and project construction. Impacts to birds are less than significant with mitigation.

Special-status mammals - Removal of large trees within the project area could result in the loss of individual roosting bats and bats roosting under W. Edith Avenue Bridge could be disturbed by construction activities, if bats are present during construction. A pre-construction survey for roosting bats will be conducted prior to tree removal and project construction. Impacts to special-status bats are less than significant with mitigation.

Removal of potential habitat (oak riparian forest) for the San Francisco dusky-footed woodrat could result in the loss of individuals, if woodrats are present. Pre-construction surveys for the San Francisco dusky-footed woodrat will be conducted prior to tree removal and project construction. Impacts to special-status mammals are less than significant with mitigation.

Special-status amphibians – If California red-legged frog adult, eggs, or larvae are present within the stream channel or adjacent upland habitat during construction the Project could result in a loss of individuals. Creation of aquatic habitat will provide potential aquatic dispersal and possible breeding habitat for amphibian species. Pre-construction surveys for California red-legged frog will be conducted prior to tree removal and project construction to avoid loss of individuals. Impacts to special-status amphibians are less than significant with mitigation.

Special-status plants - Sensitive plants are presumed absent from the project area and impacts to these species are not anticipated with implementation of the Project.

Impacts to waters of the United States – The Project will impact a total of 0.33 acre of Waters of the U.S. This includes 0.28 acre of unvegetated waters and 0.05 acre of freshwater marsh. Aquatic habitat will be recreated and freshwater marsh ~~will be recreated~~ is expected to naturally re-colonize a portion of the site as part of the Project. The project reach will be monitored annually for five years after construction to ensure freshwater marsh habitat is colonizing the project reach. Impacts to waters of the United States are less than significant mitigation.

Impacts to waters of the State – The Project will impact a total of 1.26 acres of Waters of the State. This impact is considered less than significant because the newly constructed project will provide overall benefits to the creek ecosystem by removing existing hardscape bank structures and stream bottom, widening the creek channel, and planting ~~appropriate vegetation~~ watershed specific native riparian and upland plant species, when possible.

Mitigation, Monitoring, and Reporting Program

The Mitigation, Monitoring, and Reporting Program (MMRP) will be updated to document changes to biological mitigation requirements that have resulted from changes to the project footprint and objectives.

Best Management Practices (BMPs) have been updated, where appropriate, to account for changes in Standard Operating Procedures.

Section 2 - Description of the Proposed Project

Project Location

Adobe Creek is located in the northwestern portion of Santa Clara County and lies within the District's Lower Peninsula Watershed Zone (Figure 1). The portion of Adobe Creek that is located within the Project site ~~Adobe Creek~~ forms the boundary between the City of Los Altos and the Town of Los Altos Hills. The project reach begins just upstream of W. Edith Avenue and extends downstream for a total length of approximately 1,100 linear feet (Figure 2). This project reach is also referred to as Upper Reach 5, which is a segment of Reach 5. Reach 5 begins just upstream of W. Edith Avenue and extends downstream to Foothill Expressway.

Project Background

The 1999 Adobe Creek Watershed Planning Study, consisting of an Engineer's Report and Final Environmental Impact Report, addressed Adobe Creek improvements over a 7.5 mile corridor, within the Cities of Palo Alto and Los Altos, and the Town of Los Altos Hills. The project area included 16 reaches from El Camino Real to Moody Road. One of the objectives of the Adobe Creek Watershed Planning Study was to reduce existing flooding, erosion, and sedimentation; other objectives addressed developing and maintaining a long-term maintenance program.

Reach 5 is located between Foothill Expressway and W. Edith Avenue. As described in the 1999 FEIR, the Reach 5 channel would have been widened from the approximate 10-foot wide existing channel to an approximate 90-foot top width to convey the 1 percent flow[1]. Design features included gabions on the City of Los Altos side of the creek, a 10-foot wide low flow channel, a 10-foot wide vegetated mid-bank bench, and a 48- to 64-foot wide high flow bench for 700 lineal feet downstream of the W. Edith Avenue Bridge. For an additional 200 feet downstream of the 90-foot wide channel, the existing channel would have been widened from about a 10-foot width to a 20-foot width, and rock gabions would have been added to both side slopes for slope stability (Figure 3).

Channel improvements in this section of Adobe Creek would have required a certain acreage of mitigation planting. The District proposed to install mitigation planting partly along the creek and partly in Edith Park, located just upstream of the W. Edith Avenue Bridge. At a Town of Los Altos Hills Council meeting in April 2003, the Council declined to grant right of way in Edith Park to the District for this mitigation planting and in the project area. Without the needed right of way, District staff ceased work on the Adobe Creek Reach 5 Project.

Development of Revised Project for Reach 5

At the suggestion of and under the leadership of the District, a collaborative effort, the Adobe Creek Upper Reach 5 Collaborative (Collaborative), was formed in 2003 to develop a creek restoration project that would be mutually acceptable to all Collaborative members and participants.

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[1] The 1 percent flow is defined as the flood flow that has a 1% probability of occurrence in any given year and equates to the 100-year flood event.

FIGURE 1:
LOWER PENINSULA WATERSHEDS (NORTHWEST ZONE)

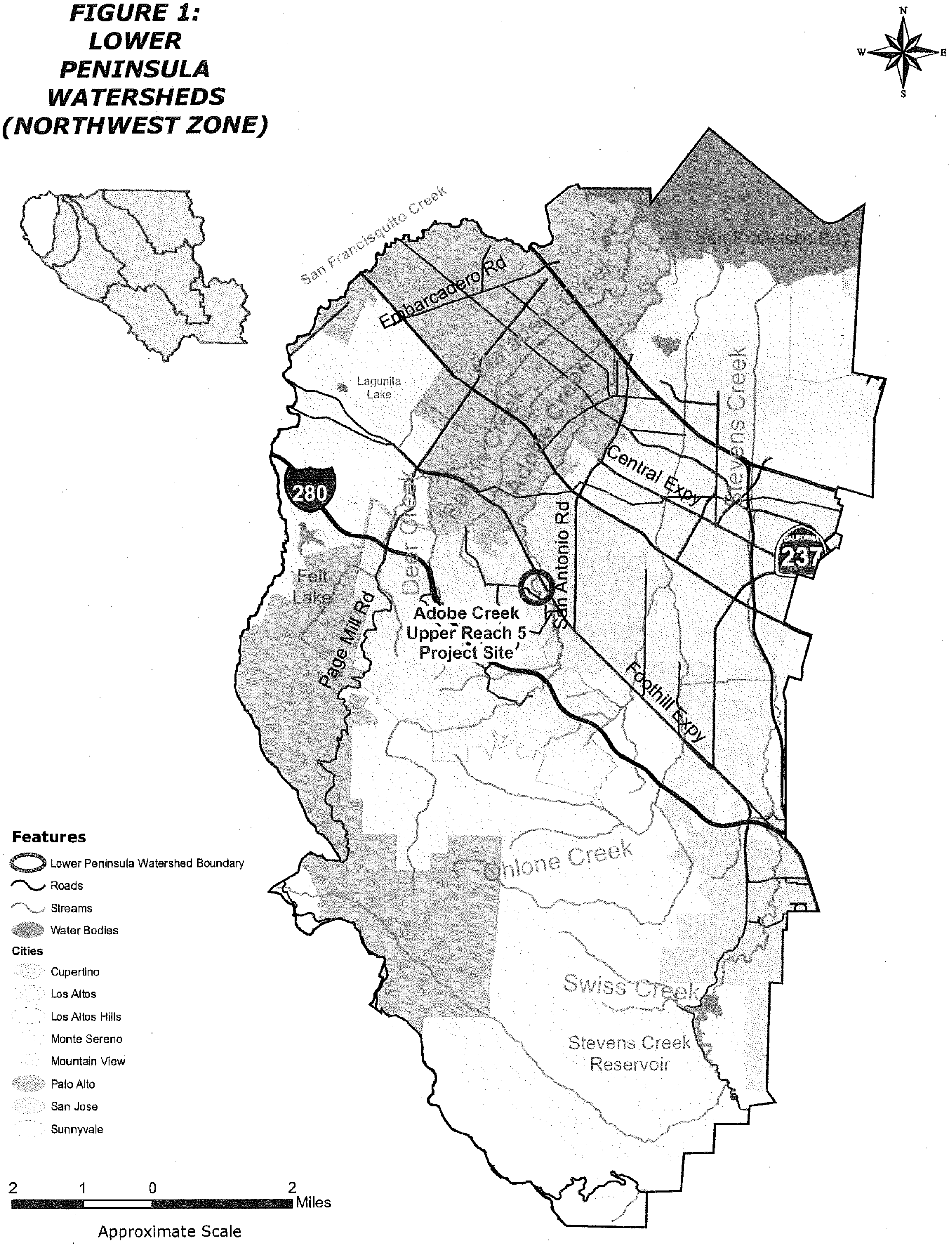

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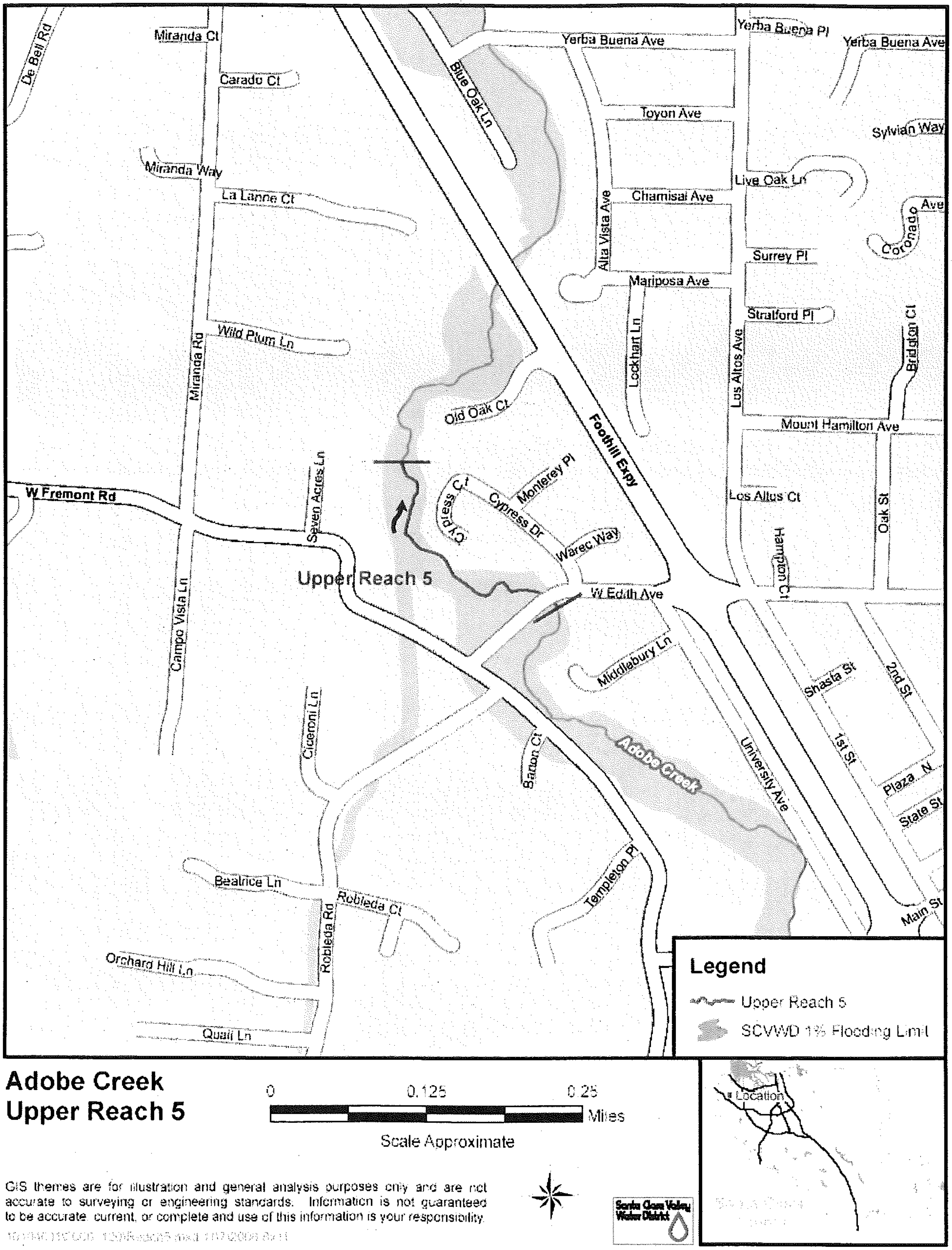
Figure 2: Project Location Map



Adobe Creek
Upper Reach 5

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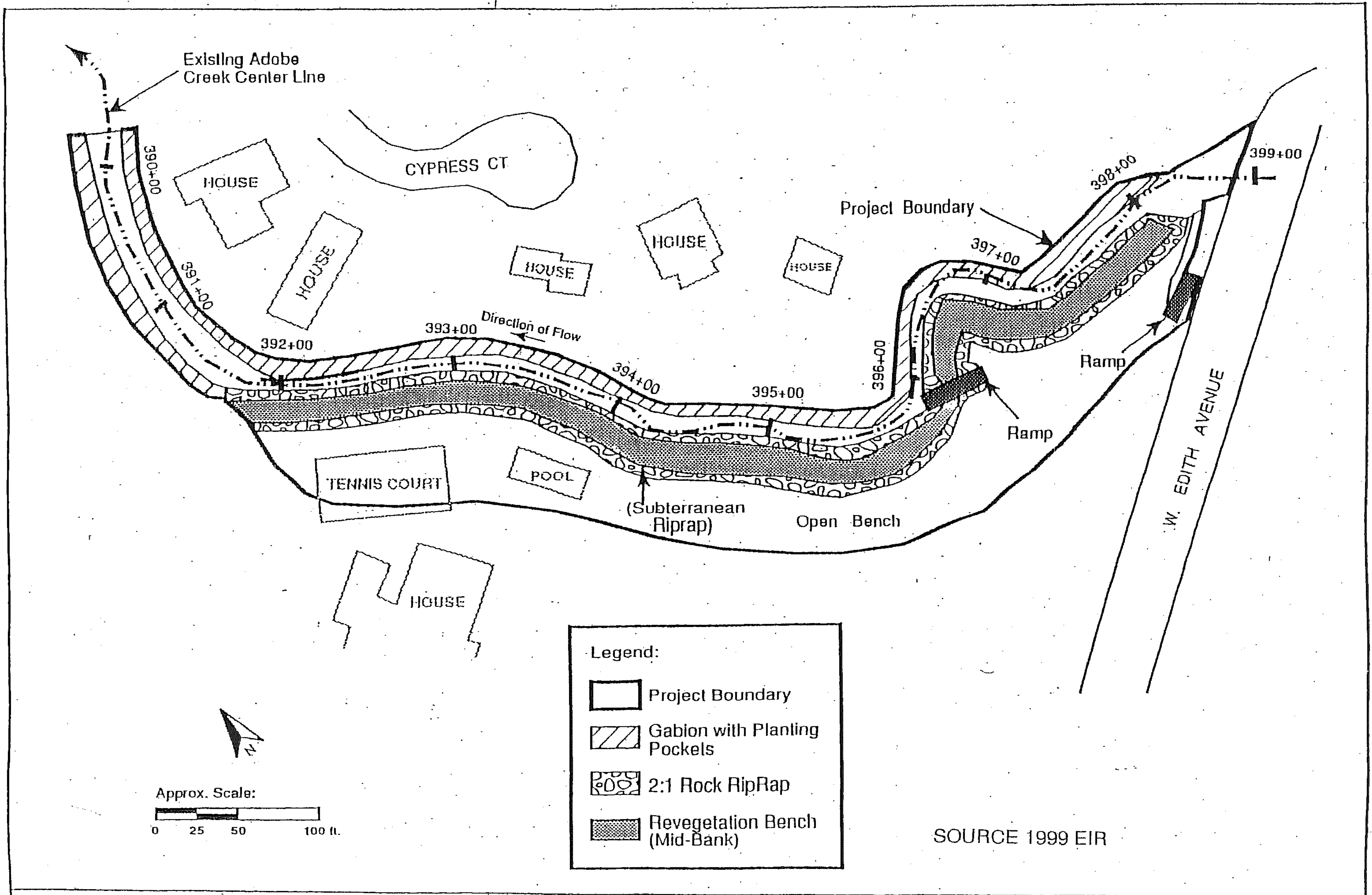

PROPOSED ADOBE CREEK REACH 5 PROJECT – 1999 ER/EIR

Figure 3: 1999 Adobe Creek Watershed Planning Study, Reach 5 Design

Collaborative members include the District, Adobe Creek Watershed Group, creekside property owners, citizens, Town of Los Altos Hills, City of Los Altos, and regional, state and federal regulatory agencies. Agencies represented include San Francisco Regional Water Quality Control Board, California Department of Fish and Game, U.S. Army Corps of Engineers, and U.S. Environmental Protection Agency. The Adobe Creek Watershed Group (ACWG) is a group of creekside property owners and other citizens of Los Altos and Los Altos Hills, including representatives from Los Altos Hills Open Space, Parks and Recreation, and Environmental Design Committees concerned with flooding, erosion, and habitat loss on Adobe Creek. The ACWG established a website for the Project for informational purposes at http://lahopenspace.com/Adobe 5. This website contains a description of the project, photographs, minutes of Collaborative meetings, schedules, residents' input, District reports, and documents the history of the development of the project. The Collaborative holds regular monthly meetings to enable all participants to articulate their concerns and support of issues. Members of the Collaborative were involved in and provided input on all stages of the Project including planning, implementation, maintenance, and monitoring. The Collaborative works together to ensure that the Project meets the objectives as defined by the Collaborative participants. Collaborative meetings are open to the public.

Through the course of conceptual design development, the Collaborative reviewed several "alternatives" that were variations of the same concept. These "alternatives" had minor differences in the project footprint, placement of rock slope protection, and placement of grade control structures. The Collaborative, as a group, reached consensus on a preferred alternative (Alternative 8) that became the Project. The remaining alternatives are not being discussed in this SEIR because they were all determined to be infeasible by the Collaborative. The Project is the only alternative that was agreeable to all parties. Additional discussion on the evolution of the Project can be found in Chapter 3 of the Engineer's Report.

Project Objectives

The objectives of the Adobe Creek Upper Reach 5 Project are as follows:

1. Restore the creek through the repair of the eroded channel and the removal of the existing drop structure;
2. Stabilize the creek banks;
3. Remove accumulated sediment;
4. Increase channel conveyance capacity while at the same time accepting additional overland flows from W. Fremont Road and W. Edith Avenue ; and
5. Achieve Objectives 1-4, while at the same time, minimizing/avoiding environmental and right-of-way impacts to the greatest extent practical.

A comprehensive list of project objectives can be found in Chapter 3 of the Engineer's Report.

Detailed Description of the Proposed Project

The Project consists of channel improvements in the upstream section of the project reach and erosion repair work in the downstream section. Figure 4 shows in detail the key design elements discussed below.

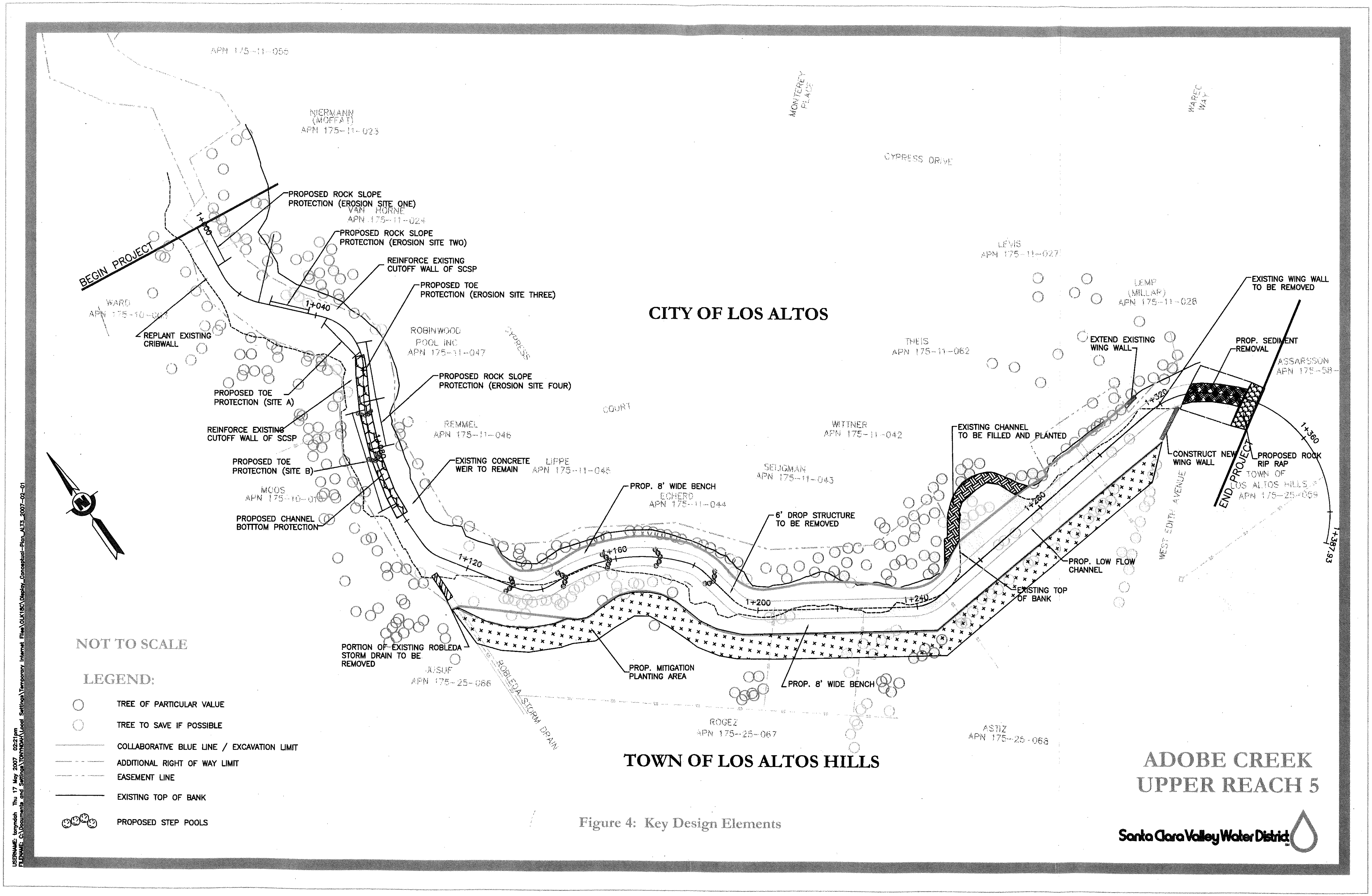
APN 175-11-055
NIERMANN (MOFFAT) APN 175-11-023
MONTEREY PLACE
CYPRESS DRIVE
WAREC WAY
BEGIN PROJECT
1+000
PROPOSED ROCK SLOPE PROTECTION (EROSION SITE ONE)
VAN HORNE APN 175-11-024
PROPOSED ROCK SLOPE PROTECTION (EROSION SITE TWO)
REINFORCE EXISTING CUTOFF WALL OF SCSP
PROPOSED TOE PROTECTION (EROSION SITE THREE)
1+040
WARD APN 175-10-007
REPLANT EXISTING CRIBWALL
ROBINWOOD POOL INC APN 175-11-047
CYPRESS
CITY OF LOS ALTOS
LEVIS APN 175-11-027
LEMP (MILLAR) APN 175-11-028
THEIS APN 175-11-062
EXTEND EXISTING WING WALL
EXISTING WING WALL TO BE REMOVED
PROP. SEDIMENT REMOVAL
ASSARSSON APN 175-58-
PROPOSED TOE PROTECTION (SITE A)
PROPOSED ROCK SLOPE PROTECTION (EROSION SITE FOUR)
COURT
REINFORCE EXISTING CUTOFF WALL OF SCSP
REMMEL APN 175-11-046
WITTNER APN 175-11-042
EXISTING CHANNEL TO BE FILLED AND PLANTED
1+320
1+360
CONSTRUCT NEW WING WALL
END PROJECT
PROPOSED ROCK RIP RAP
TOWN OF LOS ALTOS HILLS APN 175-25-069
1+080
PROPOSED TOE PROTECTION (SITE B)
EXISTING CONCRETE WEIR TO REMAIN
LIPPE APN 175-11-045
SELIGMAN APN 175-11-043
MOOS APN 175-10-010
PROP. 8' WIDE BENCH
ECHERO APN 175-11-044
1+280
WEST EDITH AVENUE
1+387.93
PROPOSED CHANNEL BOTTOM PROTECTION
6' DROP STRUCTURE TO BE REMOVED
1+160
1+120
PROP. LOW FLOW CHANNEL
EXISTING TOP OF BANK
1+200
1+240
NOT TO SCALE
PORTION OF EXISTING ROBLEDA STORM DRAIN TO BE REMOVED
PROP. MITIGATION PLANTING AREA
PROP. 8' WIDE BENCH
JUSUF APN 175-25-066
ROBLEDA STORM DRAIN
ROGEZ APN 175-25-067
ASTIZ APN 175-25-068
LEGEND:
TREE OF PARTICULAR VALUE
TREE TO SAVE IF POSSIBLE
COLLABORATIVE BLUE LINE / EXCAVATION LIMIT
ADDITIONAL RIGHT OF WAY LIMIT
EASEMENT LINE
EXISTING TOP OF BANK
PROPOSED STEP POOLS
TOWN OF LOS ALTOS HILLS
ADOBE CREEK
UPPER REACH 5
Santa Clara Valley Water District
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Figure 4: Key Design Elements

Creek Channel Improvements

Figure 5 shows a typical cross-section of creek channel improvements. Improvements to the creek channel will be constructed beginning just upstream of W. Edith Avenue Bridge and extend 700 feet downstream, to the Robleda storm drain outlet.

The proposed creek channel improvements are listed below:

- Install rock rip rap upstream of W. Edith Avenue Bridge along the channel bottom beginning just ~~upstream~~ downstream of the existing sanitary sewer line to the design invert of the upstream face of the bridge;
- Excavate a 15-foot wide low flow channel, with an 8-foot wide bench on both sides of the low flow channel. The channel cross section will be truncated above the bench on the Los Altos creekside for 700 feet downstream of the W. Edith Avenue Bridge. Channel banks will be sloped at 2:1 (horizontal to vertical ratio) or flatter above the bench on the Los Altos Hills creekside for 700 feet downstream of the W. Edith Avenue Bridge, except for two locations along the channel;
- Construct step-pools beginning 500 feet downstream of the W. Edith Avenue Bridge and continue for 200 feet downstream;
- Grade the channel invert to remove accumulated sediment from underneath the W. Edith Avenue Bridge;
- Replace an existing concrete wing wall downstream of the W. Edith Avenue Bridge on the Los Altos Hills creekside;
- Extend an existing wing wall downstream on the W. Edith Avenue Bridge on the Los Altos creekside;
- Fill and plant a portion of the existing channel outside of the proposed channel alignment;
- Modify the Robleda storm drain outlet; and
- Revegetate the project area.

The creek channel improvements would widen the existing channel to 40 feet ~~to 50 feet~~ and up to as much as 50 feet by the Robleda storm drain. Channel slopes from the mid-bank bench would be earthen and vegetated. Native ground cover plants and small shrubs would be planted in the mid-bank area to protect against erosion. Stream bed fill material would be placed along the channel bottom. Stream bed fill material will consist of imported fill material and will be created to match the stable, naturally occurring substrate found in this section of Adobe Creek. The correct mixture of sand, gravel, and cobbles will be based on pebble count data collected from Reach 6 in 2006. The proposed channel improvements would include the replacement of the existing drop structure with step-pool grade control structures, beginning upstream of the existing drop structure and ending at the Robleda storm drain outlet. The grade control structures would be constructed with rock rip-rap which allows alternating heights along the face of the structures. Five grade control structures would be installed within the step-pool

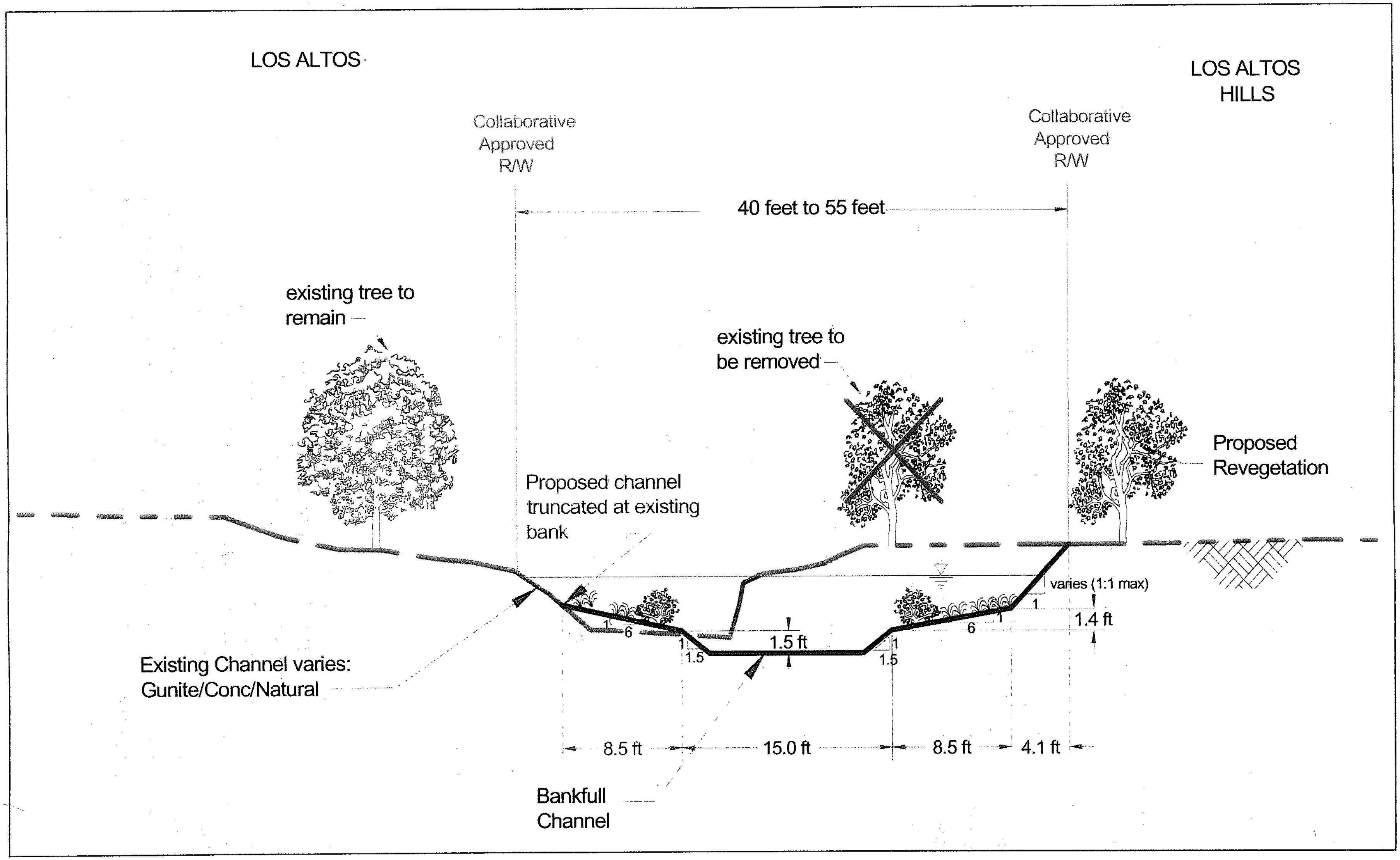


Figure 5: Typical cross-section for creek channel improvements

section. The grade control structures are 43 feet long with a maximum depth of approximately 3 feet.

Channel Bottom and Bank Erosion Repairs

Channel bottom and bank erosion repair measures would begin at the Robleda storm drain outlet and extend downstream for about 400 feet. The proposed erosion control measures would consist of placement of rock rip rap along the channel banks between stations 1+000 and 1+011, 1+028 and 1+038, and 1+068 and 1+080 (stationing in meters) to protect against further erosion along the channel banks in these areas. Willow cuttings would be installed in the rock rip rap bank and toe protection. Rock rip rap step pools will be placed along the channel bottom between stations ~~1+070 to 1+097~~ 1+056 to 1+095, to eliminate an existing 4 foot drop structure and improve fish passage. See Figure 4 for station locations. The step pools ~~Rock rip-rap protection~~ would be tied into the existing slope protection. Additional activities would also occur downstream of the Robleda storm drain and include replanting an existing log crib wall and bank toe protection at two locations (Table 1).

The erosion sites selected for repair include:

- Erosion Site 1 – The channel bank consists of a degrading wood retaining wall on the Los Altos creekside. The channel bottom at this location is eroded. The wood retaining wall foundation is undercut.
- Erosion Site 2 – The channel bank consists of incised exposed bank below hanging vegetation downstream of existing sacked concrete slope protection on the Los Altos creekside. Undercutting is occurring underneath the sacked concrete slope protection.
- Erosion Site 3 – The channel bank was eroded over 16 years ago on the Los Altos creekside, which resulted in the loss of soil on the upper portion of the bank. The existing bank is covered with a mix of vegetation and sacked concrete slope protection.
- Erosion Site 4 – The channel bank consists of incised exposed bank below hanging vegetation downstream of existing gunite slope protection on the Los Altos creekside. Undercutting is occurring underneath and behind the gunite slope protection.
- Channel Bottom Erosion – The incised channel downstream of the Robleda storm drain outlet has an eroded channel bottom downstream of an existing concrete weir in the channel. Erosion has formed a 4-foot drop downstream of the weir. Channel bottom erosion in this location has also exposed foundations of the gunite and sacked concrete slope protection along the channel banks.

The erosion repair elements, channel bottom erosion repairs, and additional activities downstream of the Robleda storm drain are summarized in Table 1.

Table 1: Summary Table of Erosion Repair Sites and Project Elements

Creek Station	Description	Erosion Repair Project Element
1+000 to 1+011 (Erosion Site 1)	Channel bank consists of a degrading wood retaining wall on the Los Altos creekside. The channel bottom at this location is eroded.	Rock riprap slope protection placed at a 1.5:1 bank slope up to the 10-yr water surface elevation. Willow cuttings would be installed at the toe of the rock rip rap. See Figure 6 for typical cross-section.
1+000 to 1+020	Existing log cribwall on the Los Altos Hills creekside is being undercut behind the logs.	Replant existing log crib wall.
1+028 to 1+038 (Erosion Site 2)	Channel bank consists of incised exposed bank below hanging vegetation downstream of existing sacked concrete slope protection on the Los Altos creekside.	Rock riprap slope protection placed at a 1.5:1 bank slope up to the 10-yr water surface elevation. Willow cuttings would be installed at the toe of the rock rip rap. See Figure 7 for typical cross-section.
1+038 to 1+064	Existing sacked concrete slope protection on Los Altos creekside. Channel bottom erosion impacts the sacked concrete slope protection cutoff wall.	Reinforcement of existing cutoff walls at the toe of existing sacked concrete slope protection.
1+052 to 1+068 (Erosion Site 3)	Channel bank covered with a mix of vegetation and sacked concrete slope protection on Los Altos creekside. Channel bottom is degrading.	Rock at the channel toe 3 feet up the bank, no cut into existing bank. Willow cuttings would be installed at the toe of the rock rip rap. See Figure 8 for typical cross-section.
1+043 to 1+055 (Toe protection Site A)	Exposed earth bank covered with grass on Los Altos Hills creekside.	Rock at the channel toe 3 feet up the bank, no cut into existing bank. Willow cuttings would be installed at the toe of the rock rip rap.
1+055 to 1+070	Existing sacked concrete slope protection on Los Altos Hills creekside. Channel bottom erosion impacts the sacked concrete slope protection cutoff wall.	Reinforcement of existing cutoff walls at the toe of existing sacked concrete slope protection.
1+056 to 1+095 (Channel bottom protection)	Channel bottom degrading. 4-foot drop downstream of existing concrete weir forms a fish passage barrier.	Stabilizing the channel invert with "fish passable" step-pools along the channel bottom.
1+068 to 1+080 (Erosion Site 4)	Channel bank consists of incised exposed bank below hanging vegetation downstream of existing gunite slope protection on the Los Altos creekside.	Rock riprap slope protection placed at a 1.5:1 bank slope up to the 10-yr water surface elevation. Willow cuttings would be installed at the toe of the rock rip rap. See Figure 9 for typical cross-section.
1+070 to 1+095 (Toe Protection Site B)	Channel bank covered with a mix of vegetation on Los Altos Hills creekside. Toe is exposed earth, with roots, and trees at top of bank.	Rock at the channel toe 3 feet up the bank, no cut into existing bank. Willow cuttings would be installed at the toe of the rock rip rap. See Figure 10 for typical cross-section.

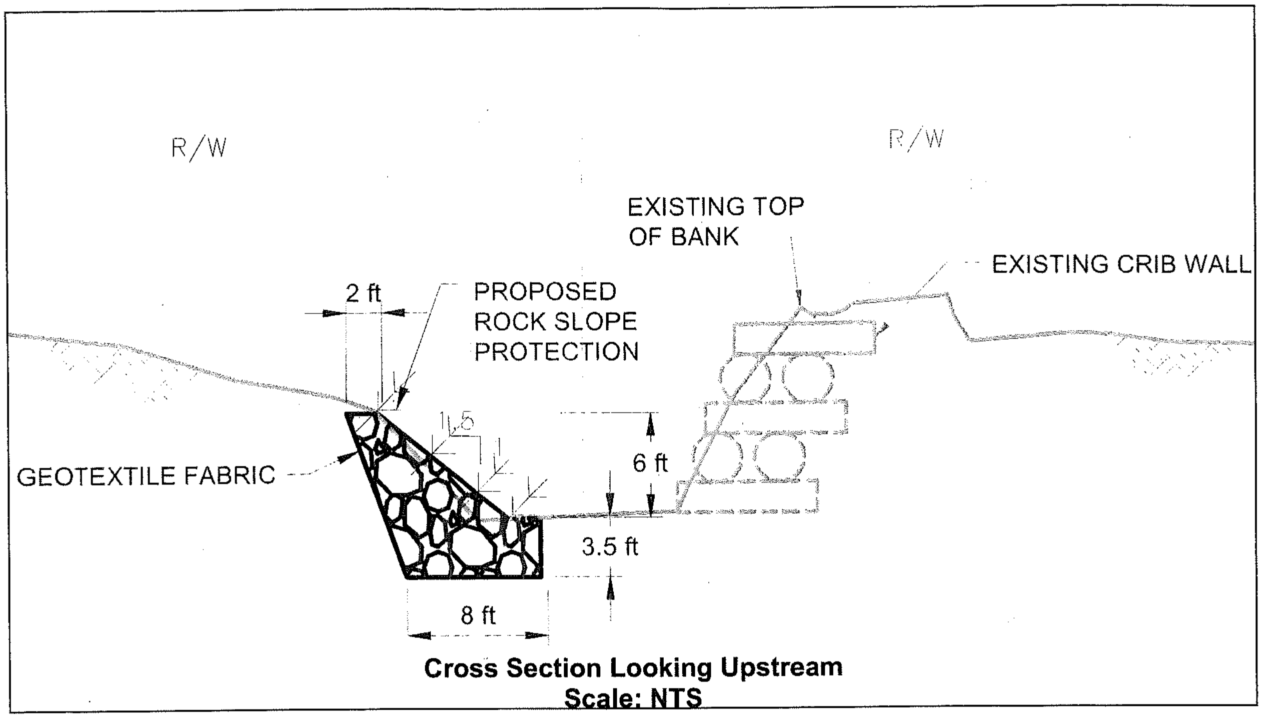


Figure 6: Erosion Repair Typical Section – Erosion Site 1- Station 1+000 to 1+011

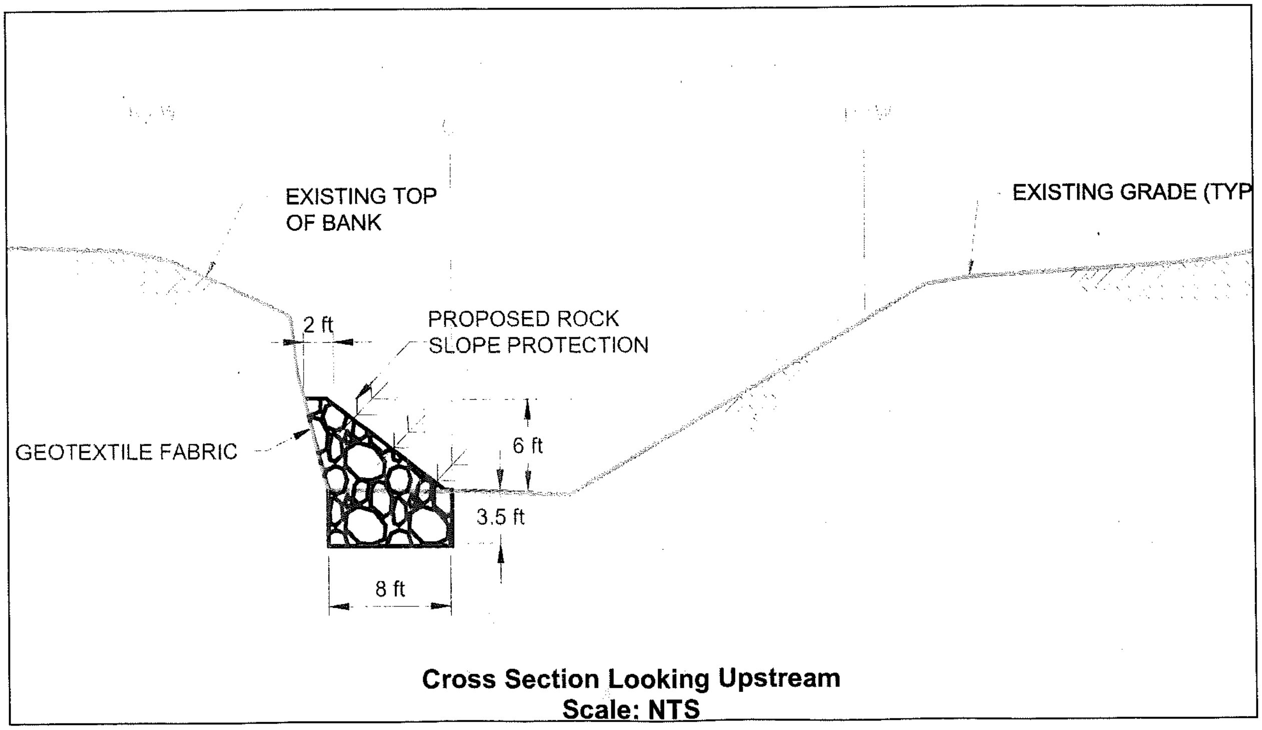


Figure 7: Erosion Repair Typical Section – Erosion Site 2 - Station 1+028 to 1+038

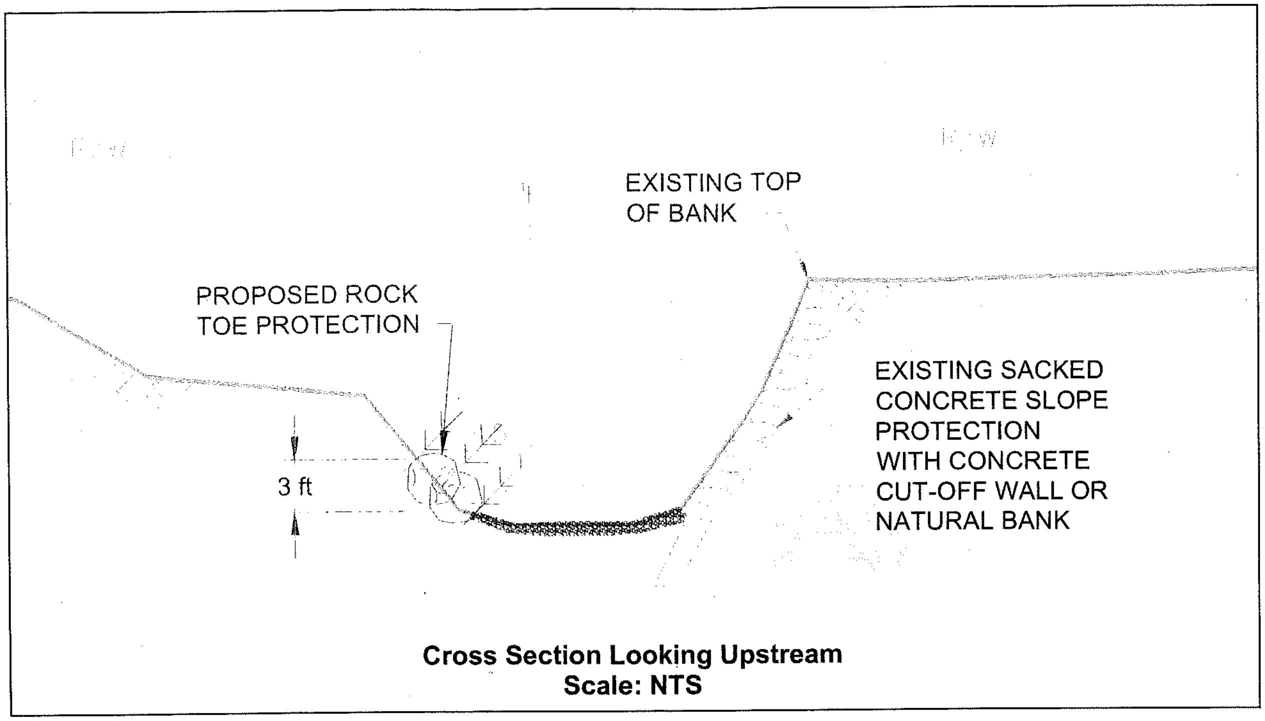

EXISTING TOP OF BANK
PROPOSED ROCK TOE PROTECTION
EXISTING SACKED CONCRETE SLOPE PROTECTION WITH CONCRETE CUT-OFF WALL OR NATURAL BANK
3 ft
Cross Section Looking Upstream
Scale: NTS

Figure 8: Erosion Repair Typical Section – Erosion Site 3 - Station 1+052 to 1+068

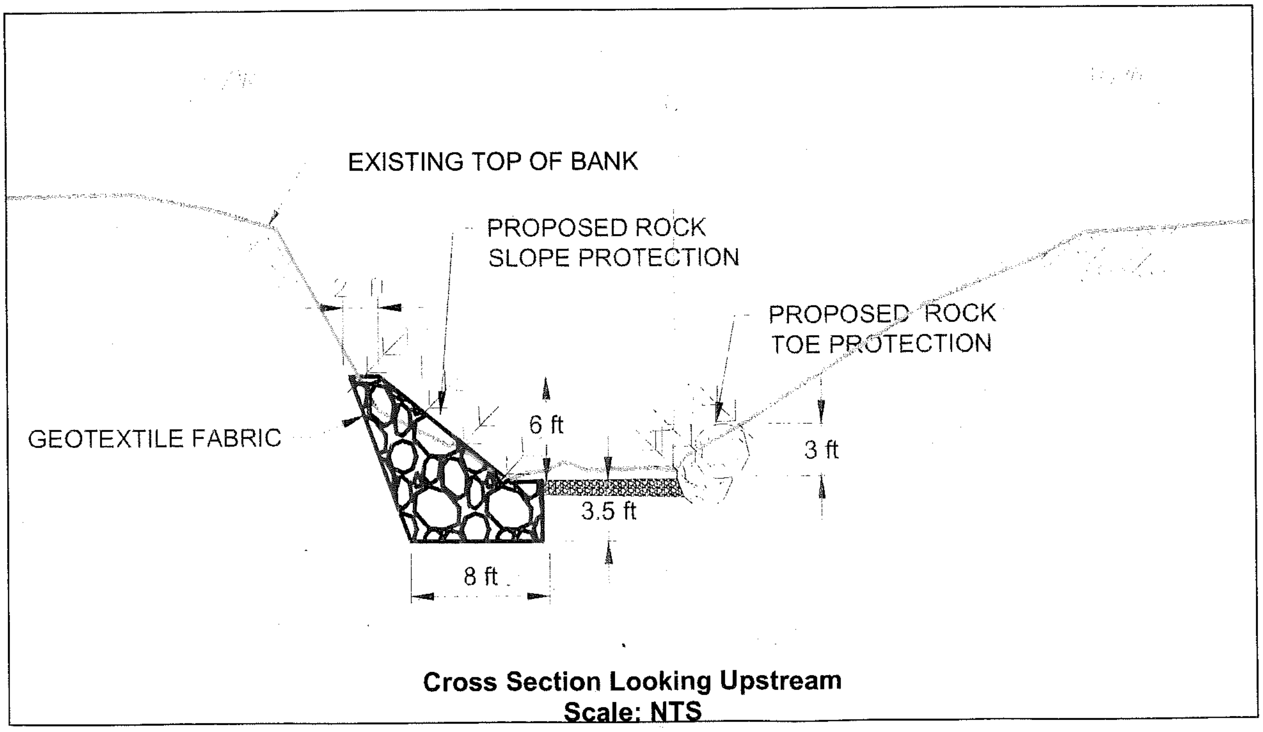
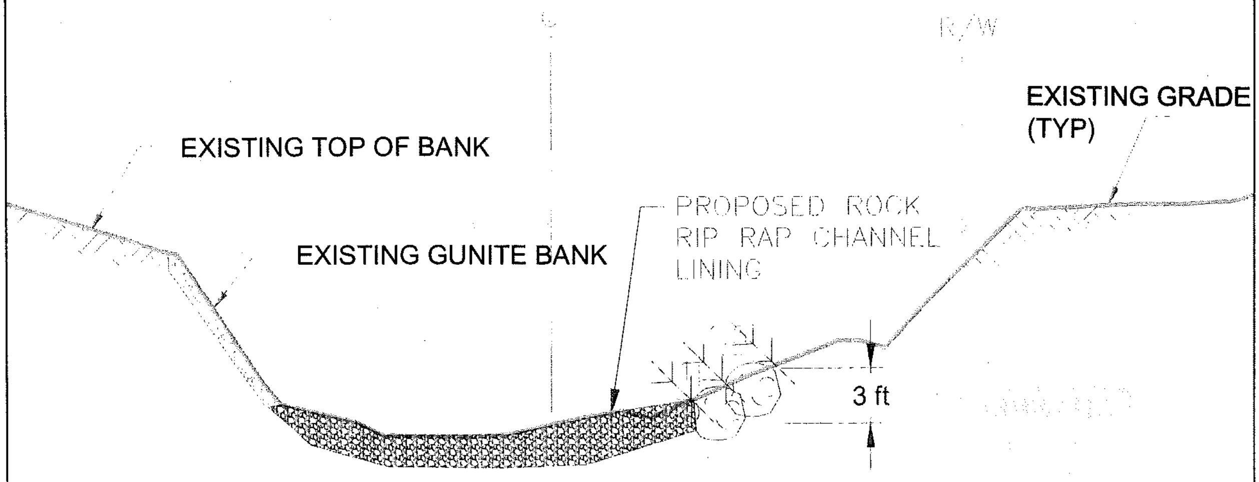

EXISTING TOP OF BANK
PROPOSED ROCK SLOPE PROTECTION
PROPOSED ROCK TOE PROTECTION
GEOTEXTILE FABRIC
2 ft
6 ft
3 ft
3.5 ft
8 ft
Cross Section Looking Upstream
Scale: NTS

Figure 9: Erosion Repair Typical Section –Erosion Site 4 - Station 1+068 to 1+080



Cross Section Looking Upstream
Scale: NTS

Figure 10: Erosion Repair Typical Section —Station 1+070 to 1+095

Removal and Placement of Hardscape

Construction of the creek channel improvements and bank erosion repairs described above will require the removal of 6,366 square feet of hardscape from the channel bottom and bank slopes. Installation of the rock weirs and grade control structures will require the placement of 10,483 square feet of rock within the channel bottom. Installation of rock slope protection and the extension of the concrete wing wall will require the placement of 2,452 square feet of hardscape. Table 2 provides a summary of hardscape to be removed and installed as part of construction of the Project as proposed.

Table 2: Summary of Hardscape Calculations

	EXISTING HARDSCAPE to be REMOVED	PROPOSED HARDSCAPE
CHANNEL BOTTOM		
Concrete channel bottom	2,292	0
Step pools	0	10,483
TOTAL CHANNEL BOTTOM	**2,292 SQ. FT**	**10,483 SQ. FT**
CHANNEL BANKS		
Concrete	1,427	0
Concrete Wing Walls	231	310
Wood	1,216	0
Sacked Concrete	354	0
Cinder Blocks	655	0
Concrete with Wood	161	0
Rock Slope Protection (Includes erosion repair, toe protection, and step pool banks)	0	2,142
TOTAL CHANNEL BANKS	**4,044 SQ. FT**	**2,452 SQ. FT**
TOTAL	**6,336 SQ. FT**	**12,935 SQ. FT**

Anticipated Construction

Construction of the Project would occur in one construction season, with the planting phase occurring after project construction. Construction is expected to occur in 2008, however; if unforeseen circumstances delay the Project, the same activities would apply to a later year. Pre-construction activities would begin as early as April 2008, while channel construction work would occur between June and October 2008. All channel construction activities would be completed by October 15, 2008 and plantings would be installed between October and December 2008. Topping of trees and other vegetation that will be removed as part of the Project may occur in December 2007 or January 2008, prior to the start of construction to avoid bird nesting season. Tree stumps will be left in place until construction of the project starts. The construction period would be followed by a 36 – 60 month plant maintenance period.

Mobilization involves the movement of personnel, equipment supplies, and incidentals onto the project site, placement of temporary fences along construction easements, as well as placement of project signs and facilities needed for work. It is anticipated that the contactor would utilize diesel powered heavy equipment, jackhammers and other equipment, such as excavators, trucks, front end loaders, as well as gasoline powered chain saws and mowers to complete the work. Clearing and grubbing operations shall include installation of orange fencing as needed to protect trees and other plants that would be identified during the design phase of the Project. Other activities include removal of invasive vegetation, wood retaining walls, abandoned storm drains, and sediment along the existing channel lining. The clearing and grubbing activities would be performed only to the extent needed to accommodate the work of the Project. The design phase plans and specifications would guide the contractor in the performance of the clearing and grubbing activities.

Construction activities would involve removal of concrete, shotcrete, concrete rubble, sacked concrete slope protection, and wood retaining walls along the channel; channel excavation; construction of embankments; and construction of rock grade control structures. Removal of existing hardscape shall include work necessary to excavate, transport, and dispose of material from the project site. It is anticipated that the removal of existing hardscape along the channel would require the use of jackhammers, loaders, and dump trucks to complete the work.

Construction activities would also include the removal and reconstruction of one wing wall downstream of W. Edith Avenue Bridge to improve flow conveyance through this section. It is anticipated that the removal of the existing wing wall would require the use of jackhammers, pneumatic chip hammers, skill saws, loaders, and dump trucks to complete the work. Reconstruction of the wing wall would require the use of wooden forms, concrete trucks, hammers, and loaders to complete the work.

Channel excavation and construction of embankment activities would involve grading the channel and placing material along the channel bottom and along the creek banks. The Project would also realign the creek between stations 1+255 and 1+280 and fill materials would be placed within the abandoned channel. Rock grade control structures would be constructed by placing rock rip rap along the invert of the channel. It is anticipated that the work will require the use of bulldozers, backhoes, loaders, dump trucks, earth tampers, a hydroseeder, and a gradeall. All disturbed surfaces will be hydroseeded upon completion.

Construction activities will involve removing 16 to 24 feet of the existing Robleda storm drain outlet, to conform to the proposed project geometry. Activities to remove the pipe would include excavation of the existing sacked concrete slope protection along the banks. Rock slope protection would be placed around the outlet to tie into the existing sacked concrete.

Erosion repair activities will involve placing material along the channel bottom and along the creek banks. It is anticipated that the work will require the use of backhoes, dump trucks, and a loader.

Revegetation

The planting phase of the Project would involve installation of an irrigation system and installation of native vegetation along the mid bank and along the top of bank of the creek. Rock slope protection will be planted with willow cuttings. All disturbed areas will be hydroseeded. It is anticipated that the work will require the use of hand augers, chippers, hydroseeders, and water trucks.

Storm Water Management

Construction of the Project will occur during a period when the creek is normally dry. In the event that flows exist within the project area during construction, stream flow will be diverted around the work area using a flow barrier or sump. Best Management Practices will be implemented to avoid and/or minimize construction related impacts to waters of the State (Appendix D).

Access and Staging

Access to the project area during construction would occur at three locations: 1) the existing paved access road on the Los Altos Hills side of W. Edith Avenue Bridge ; 2) Fremont Road between the properties APN 175-25-068 and APN 175-25-067; and 3) and between properties APN 175-10-015 and APN 175-10-003 (Figure 11). The contractor will use water trucks to control dust and vacuum mechanical sweepers to remove mud and/or dirt from W. Edith Avenue, Fremont Road, Seven Acres Lane, and other roadways as needed.

The potential staging areas for construction would be on the ~~property~~ properties APN 175-25-067 and 175-25-066 and upstream of W. Edith Avenue, in a portion of Edith Park (Figure 11). Parking of contractor and District employee vehicles would occur on University Avenue pending approval from the City of Los Altos and the residents located on University Avenue.

All potential access and staging areas on private property are subject to final approval from the property owner.

Spoil Management

The Project will generate ~~about 1,300~~ approximately 750 truck trips to haul excavated soil material, concrete, and rubble from the site and to deliver equipment and materials to the site. A truck trip is considered one round trip. Soil will be reused on site whenever possible and fill will be imported only when necessary. Excavated soil that is not reused may be temporarily stockpiled onsite in the staging area, prior to disposal. ~~Disposal~~ Transport of excavated material from the site and equipment and material deliveries to the site would occur between ~~June~~ April and October 2008, with an average of about ~~16~~ 7 truck trips per day. Material generated from the Project would be transported to one of the nearby landfills in the area. The likely haul route for the disposal of spoil material would be along the nearby Foothill Expressway, which leads to Highway 280.

Maintenance

The Project is designed to require little to no maintenance apart from maintenance required for mitigation plantings such as replacement of dead trees and repair to irrigation systems. In the event that emergency maintenance is necessary to protect life or property, access to the creek would require the construction of a temporary ramp downstream of W. Edith Avenue Bridge and/or in the vicinity of the Robleda storm drain outlet. It is anticipated that the temporary access would be constructed by placing fill sloped against the channel banks using dump trucks, front end loaders, and earth tampers. Fill would be imported as needed and would not be stockpiled on site. Upon completion of the maintenance activities the ramp would be removed and the creek banks restored to their original conditions. Anticipated equipment for the ramp removal would include a backhoe, loaders, and dump trucks. Emergency maintenance work would be conducted under the District's Stream Maintenance Program. Impacts to vegetation would be avoided or minimized whenever possible.

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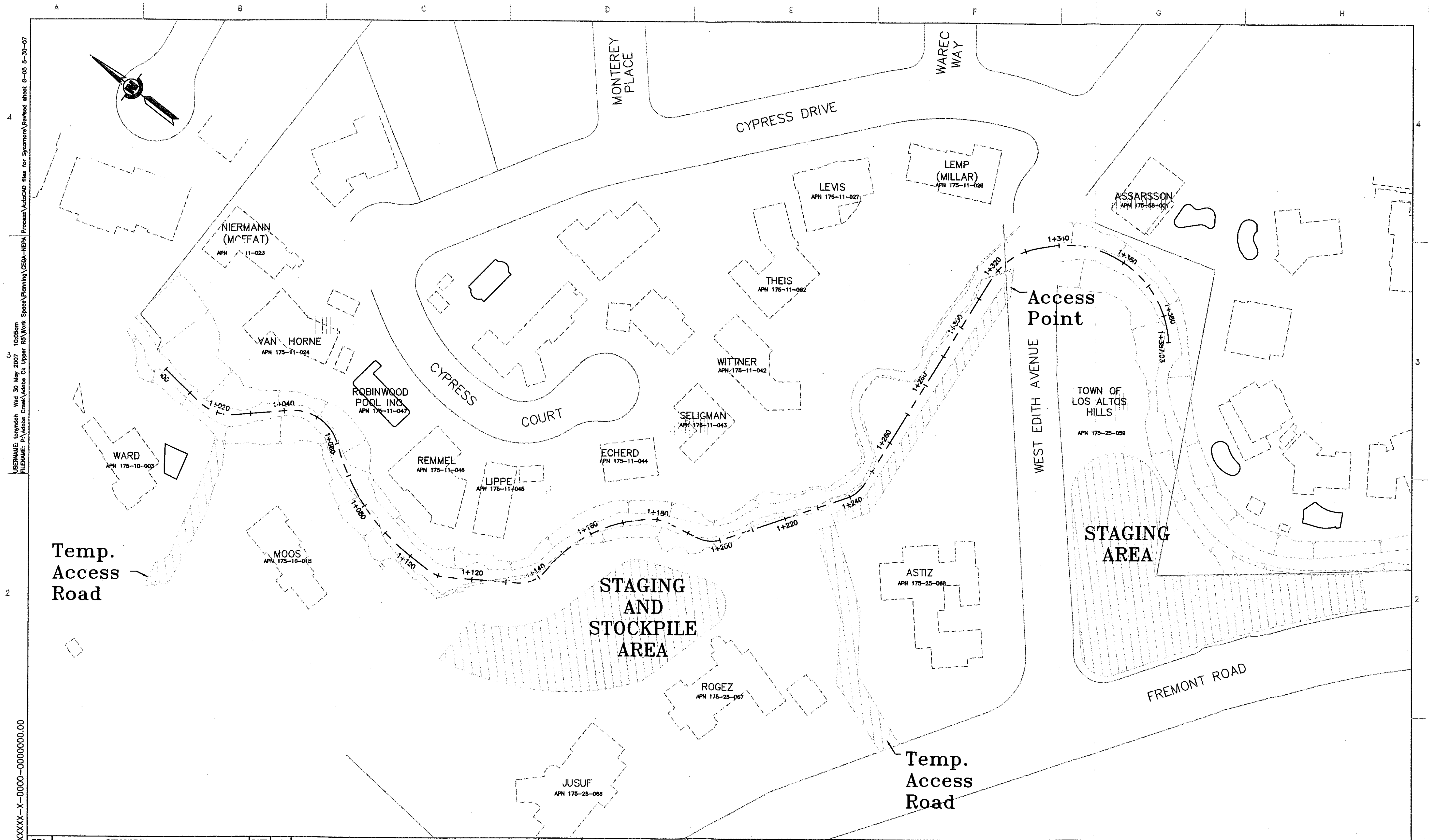
FILENAME: P:\Adobe Creek\Adobe Ck Upper R5\Work Space\Planning\CEQA-NEPA Process\AutoCAD files for Sycamore\Revised sheet G-05 5-30-07



REV	DESCRIPTION	DATE	APPR.	REFERENCE INFORMATION AND NOTES

DATE
DESIGN
DRAWN
CHECKED

ENGINEERING CERTIFICATION

Santa Clara Valley Water District

PROJECT NAME AND SHEET DESCRIPTION:

Figure 11: Site Access and Staging Area Locations

SCALE

VERIFY SCALES
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Section 3- Environmental Analysis

Introduction

The area of interest for this SEIR is Upper Reach 5 of Adobe Creek, specifically focusing on hydrology and biological resources. The following sections of the 1999 FEIR will apply to the current Project and will not be assessed in this SEIR:

- Land Use
- Geology
- Water Quality
- Hazardous Materials
- Cultural Resources
- Visual and Aesthetics
- Construction-Related Impacts
- Utilities

Mitigation, Monitoring, and Reporting Program

Mitigation measures have been included in this SEIR and will replace the Biological Resources mitigation measures included in the 1999 FEIR. A list of biological mitigation measures can be found in Appendix E of this document. A complete Mitigation Monitoring and Reporting Program including all mitigation measures related to Reach 5 from the 1999 FEIR can be found in Appendix K.

Best Management Practices

Best Management Practices (BMPs) have been updated, where appropriate, to account for changes in Standard Operating Procedures. Best Management Practices that will be added to the Project are included in Appendix D of this document.

Section 3.1 - Hydrology

Environmental Setting

Adobe Creek is an ~~ephemeral~~ intermittent[2] stream that drains an area of 10.8 square miles[3]. Originating in the northeastern slopes of the Santa Cruz Mountains, the creek flows for 14.7 miles through unincorporated lands, the Town of Los Altos Hills, and the Cities of Los Altos, Mountain View, and Palo Alto. Approximately 75% of the watershed area is mountainous and 25% is located in the urbanized valley floor. Adobe Creek eventually discharges into the Palo Alto Flood Basin, a 600-acre tidal basin that is regulated by a tide gate; located on the edge of South San Francisco Bay.

Adobe Creek begins as a natural, undisturbed stream with dense riparian vegetation in the upper watershed. At the project site, the creek is an altered channel characterized by near-vertical walls of concrete, gunite, sacked concrete, and wooden planks. At the location of the project site the creek forms the boundary between Los Altos and Los Altos Hills. Adjacent to the project site are low density single-family dwellings. The lower reaches of Adobe Creek (below the project site) are channelized with hardened banks and little in-stream vegetation and a narrow riparian corridor. The lower reaches are surrounded by high density residential, commercial and industrial land uses.

Mean annual precipitation in the project area ranges from approximately 34 inches in the upper watershed to approximately 14 inches in the lower watershed. Ninety percent of rainfall occurs from November through March. The majority of storms produce high intensity runoff for short durations (Santa Clara Valley Water District, 1999).

A hydrology report (Santa Clara Valley Water District, 2005) was completed in February 2005 for Adobe Creek Reaches 5 and 6 to develop one and ten percent flow rates using the District's 2004 updated hydrology procedures. Flow rates at selected catch points are summarized in Table 3. For a complete discussion of the hydrology and flooding of Adobe Creek, refer to Chapter 2 of the Engineer's Report.

Table 3: Flow Rates at Selected Catch Points

Catch Points	Basin Area (square miles)	10-Year Peak Flow Rate (cubic feet per second)	100-Year Peak Flow Rate (cubic feet per second)
Adobe Creek at Burke Rd. Bridge	6.48	1,243	2,390
Adobe Creek at West Edith Ave. Bridge	6.53	1,245	2,397
Adobe Creek at Foothill Expressway	7.13	1,333	2,571

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[2] Intermittent streams are those which flow for only certain times of the year, when they receive water from springs or runoff. During dry years there may be an absence of flow, or a series of separate pools maybe present (Gordon, McMahon, and Finlayson 1992).

[3] Adobe Creek was described as a perennial creek, or having flow year-round, in the early 1900s (Nyberg 1992).

Regulatory Framework

Local Regulations

City of Los Altos - The City of Los Altos has developed eight goals to address the major issues of the Natural Environment and Hazard Element of the City's General Plan. Goal 2 states "Reduce the potential for flooding along creeks that traverse Los Altos." Of the three policies that support this goal, Policy 2.3 addresses the District's role in flood protection within the County. Policy 2.3 states, "Continue to discourage concrete lining of creek beds, and encourage the Santa Clara Valley Water District to use environmentally sensitive solutions to control local erosion problems" (City of Los Altos, 2002).

The City of Los Altos has developed Flood Hazard Area Regulations and Watercourse Protection Regulations. The Flood Hazard Area Regulations establish provisions for use, structures, grading, and streambed alteration within designated flood, flood-related erosion, and mud-slide hazard areas. These provisions apply to property identified in the Flood Insurance Study for the City of Los Altos (dated July 16, 1980) and the Flood Insurance Rate Map generated by the Federal Emergency Management Agency (City of Los Altos, 2002).

The Watercourse Protection Regulations were established to protect the creek and creekside habitat from the effects of urbanization, disturbance of natural conditions, excessive stormwater runoff, and erosion and requires that properties adjacent to creeks be protected from flooding (City of Los Altos, 2006).

Section 6.32.050 of the Los Altos Municipal Code is specific to Adobe Creek and describes permitted and prohibited activities in Adobe Creek and setbacks. Prohibited activities include grading, paving, manmade construction, dumping, use of herbicides or pesticides, and vegetation removal. Exceptions to these prohibitions include activities allowed by permission from the planning department, pathways, access roads, utilities, bridges, and fire, and flood control measures. Riparian and indigenous vegetation removal is not permitted within the area 15 feet to 40 feet from the top of the bank unless the vegetation meets specific criteria described in section 6.32.050 of the Municipal Code (City of Los Altos, 2006).

Town of Los Altos Hills - The Town of Los Altos Hills Municipal Code includes a chapter dedicated to Flood Plain Management (Title 7, Chapter 5) and applies to those areas of special flood hazard identified by the Federal Emergency Management Agency. The purpose of the Flood Plain Management Ordinance is to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions (Town of Los Altos Hills, 2003).

Impact Analysis

Criteria for Determining Significance

According to Appendix G of the CEQA Guidelines, impacts to hydrology are considered significant if the project would:

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

- Place housing within a 100-year flood-hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?
- Place within a 100-year flood-hazard area structures which would impede or redirect flood flows?
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Environmental Impacts of the Proposed Project

The depth of the overland flow and downstream extent of flooding would be less after the Project than the existing condition. The Project would provide greater protection from flooding in the first 600 lineal feet of Upper Reach 5 than currently exists.

While the extent of flooding will be reduced, the Project would not provide 1% flood conveyance capacity within the first 600 lineal feet of Reach 5 immediately downstream of W. Edith Avenue Bridge. The creekside residents along this section of Upper Reach 5 chose to accept the risk of overland flows across their properties during high flow events, rather than deed their land to the District for a larger capacity channel. Allowing overland flows also avoids impacts associated with the construction of hardened flood control structures, such as concrete flood walls or gabions. The channel capacity between W. Edith Avenue Bridge and the Robleda storm drain was determined and agreed upon by the Collaborative. The channel capacity established by the Collaborative at this location is a minimum of 1,100 cubic feet per second (cfs). This channel capacity is based on a stable channel within the right of way limits established by the Collaborative. The channel capacity downstream of the Robleda storm drain is 2,560 cfs, which is the one-percent flood event and is based on District hydrological methods. Figure 12 shows the extent of overland flow before and after construction on private property adjacent to the project site at 1,245 cfs. Figure 13 shows the extent of overland flow before and after construction at 2,400 cfs.

In the existing condition, 1 percent flood flows from Reach 6 would enter Edith Park; flow across W. Edith Avenue and through backyards in Reach 5 before re-entering the channel downstream of W. Edith Avenue. Since there is no construction planned for Reach 6, these flows would still follow the same path as that of the existing condition (Ndah, pers. comm.).

The project will not impede or redirect flood flows, nor would it place structures within a 100-year flood-hazard area.

The Project will result in a beneficial impact to the hydrology of Adobe Creek Upper Reach 5.

Figure 12: Extent of overland flow at 1,245 cfs

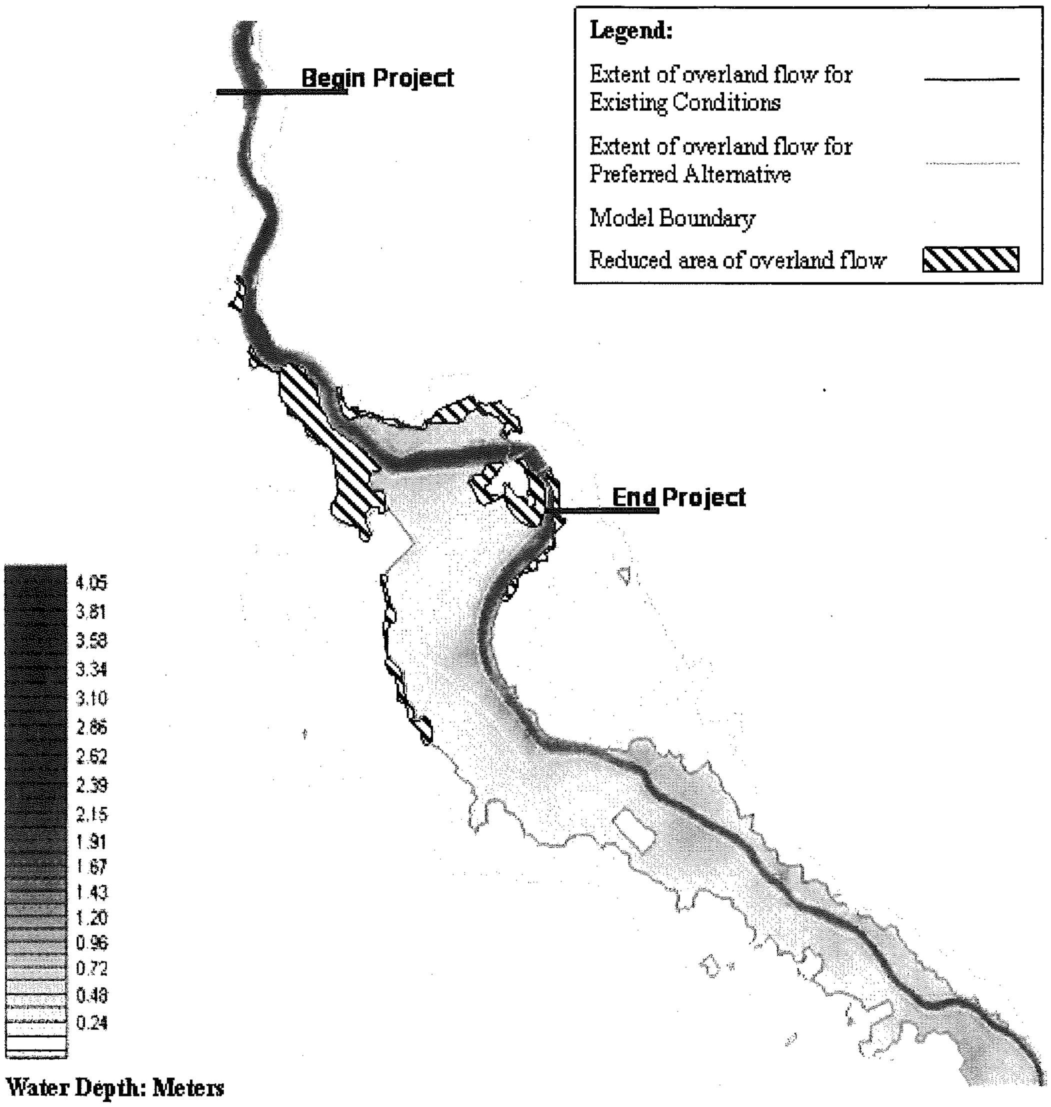
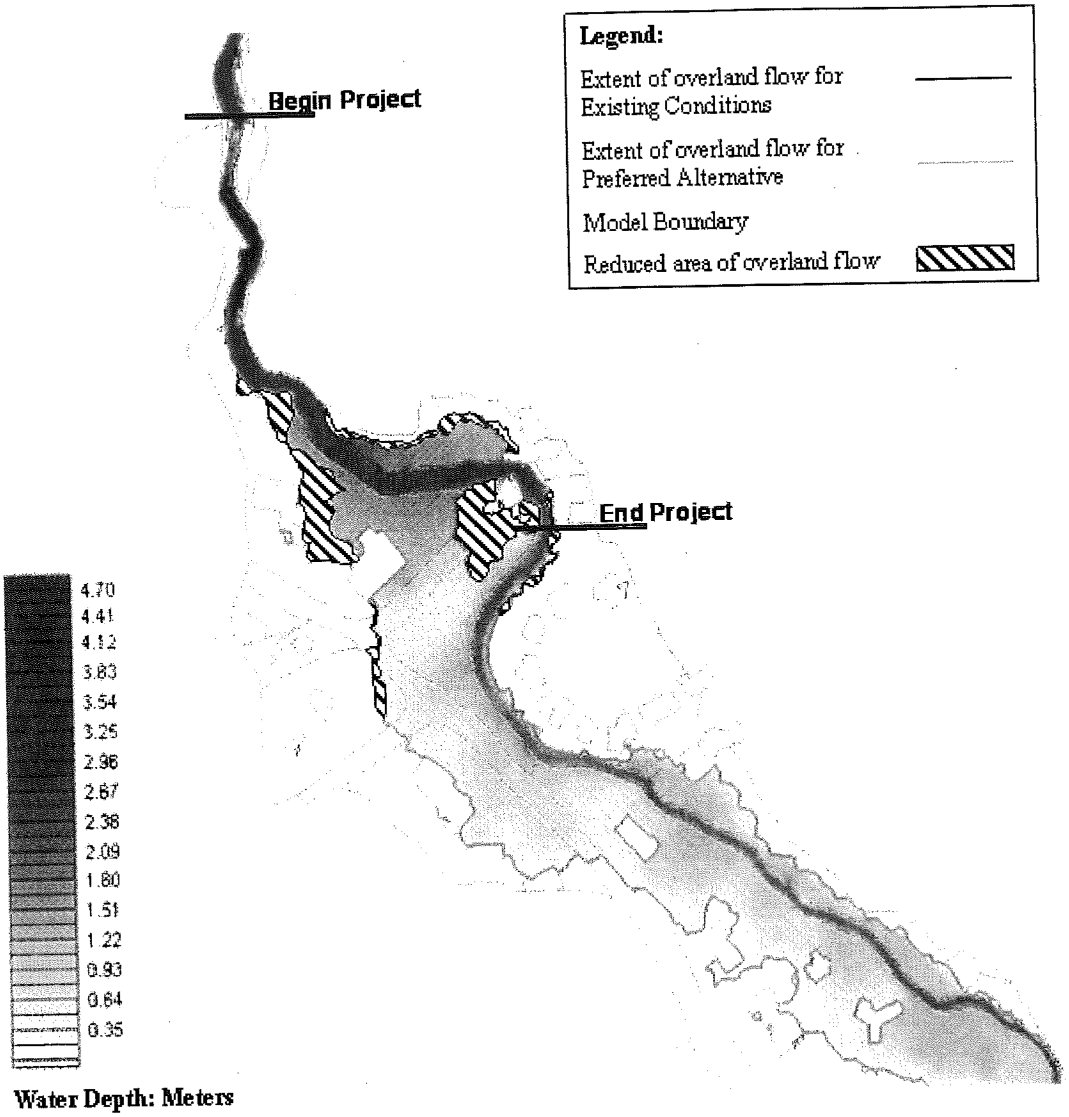


Figure 13: Extent of overland flow at 2,400 cfs



Section 3.2 - Biological Resources

Environmental Setting

This section provides a summary of a biological assessment, tree survey, and wetland delineation and jurisdictional determination of Adobe Creek Upper Reach 5 (Sycamore and Associates, 2007a, 2006, and 2007b). These reports can be viewed in their entirety in Appendices F, G, and H, respectively.

Botany

Four plant communities were identified within the study area: 1) Non-native Riparian, including existing hardscape; 2) Ruderal[4] Landscape/Hardscape; 3) Remnant Central Coast Live Oak Riparian Forest; and 4) Coastal and Valley Freshwater Marsh. A total of 132 plant species were observed in the Project area, 30 (23%) were native species. A complete list of vascular plant species detected at the Project site can be found in the Biological Resources Report in Appendix F.

Non-native Riparian, including existing hardscape – The primary plant community within the study area outside of the channel consists of ornamental plantings of horticultural trees and shrubs characteristic of residential yards in the surrounding neighborhood (Sycamore Associates LLC, 2007a). Typical landscape trees include Northern California black walnut (*Juglans californica* var. *hindsii*), coast redwood (*Sequoia sempervirens*), Monterey pine (*Pinus radiata*), and California incense cedar (*Calocedrus decurrens*). These tree species are native to California, but are not naturally occurring within the study area. Other landscape trees include olive (*Olea europaea*), Tasmanian blue gum (*Eucalyptus globulus*), red ironbark (*Eucalyptus sideroxylon*), Canary Island date palm (*Phoenix canariensis*), Lombardy poplar (*Populus nigra*), glossy privet (*Ligustrum lucidum*), blackwood acacia (*Acacia melanoxylon*), cork oak (*Quercus suber*), and English walnut (*Juglans regia*) (Sycamore Associates LLC, 2007a). Several native shrubs or herbs were also present, but were not encountered in natural occurrences within the study area. These include snowberry (*Symphoricarpos albus* var. *laevigatus*), alumroot (*Heuchera micrantha*), and toyon (*Heteromeles arbutifolia*) (Sycamore Associates LLC, 2007a).

Ruderal Landscape/Hardscape - Open areas around planted trees and shrubs and their understories are dominated by ruderal plant species typical of highly disturbed places, including landscaped residential yards and can also be found in crevices of the existing hardscape (Sycamore Associates LLC, 2007a). Upland areas outside of the creek banks are characterized by typical weedy, non-native species (Sycamore Associates LLC, 2007a).

In the cooler and moister locations along the lower portions of the creek banks, more shade-tolerant weed species are present such as Cape ivy (*Delairia odorata*), Himalayan blackberry (*Rubus discolor*), and poison hemlock (*Conium maculatum*) (Sycamore Associates LLC, 2007a).

Remnant Central Coast Live Oak Riparian Forest – Central coast live oak riparian forest is characterized as a low, open, evergreen forest dominated by coast live oak (*Quercus agrifolia*).

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[4] A ruderal species is a weedy plant species that grows on compacted, plowed, or otherwise disturbed ground and shows a preference for this type of habitat.

This plant community is typically restricted to the drier, outer floodplains along perennial streams. Characteristic species of this plant community at the Project site were detected in scattered locations and include coast live oak, California buckeye (*Aesculus californica*), California bay laurel (*Umbellularia californica*), valley oak (*Quercus lobata*), and blue elderberry (*Sambucus mexicana*). A single native western dogwood (*Cornus sericea* ssp. *occidentalis*) was observed near the toe of the creek bank. These species are located within the project site as discontinuous groups and scattered individuals that are likely remnants of a more well-developed plant community (Sycamore Associates LLC, 2007a).

Coastal and Valley Freshwater Marsh – Coastal and valley freshwater marsh typically occurs in low-lying sites permanently flooded with fresh water and lacking significant flow, and in nutrient-rich mineral soils that are saturated all or most of the year (Sycamore Associates LLC, 2007a). This vegetation community forms a dense vegetative cover dominated by perennial, emergent monocots. At the Project site, freshwater marsh was observed near the downstream end of Upper Reach 5. At this location, the gravel and sandbars are shallowly inundated or saturated at the surface. Vegetation consists of low-growing emergent species dominated by native water cress (*Rorippa nasturtium-aquaticum*). Other native species are also present such as small-fruited bulrush (*Scirpus microcarpus*), short-spiked hedge nettle (*Stachys pycnantha*), sneezeweed (*Helenium puberulum*), common nut-sedge (*Cyperus eragrostis*), northern willow herb (*Epilobium ciliatum* ssp. *ciliatum*), hoary nettle (*Urtica dioica* ssp. *holosericea*), iris-leaved rush (*Juncus xiphioides*), and spearmint (*Mentha spicata*). A few small saplings of arroyo willow (*Salix lasiolepis*) were also present (Sycamore Associates LLC, 2007a).

Tree Survey - A tree survey was conducted by a certified arborist in October 2005 within the easement area and the vicinity of the proposed top of bank of Upper Reach 5. The survey included all trees with a diameter of greater than 6 inches at 54 inches above grade (DBH) and trees that had been surveyed as part of a January 2002 Tree Preservation Plan, regardless of their location (Sycamore Associates LLC, 2006). Trees were measured, mapped, and assigned a rating on a scale of 0 to 5 (0 being dead and 5 being in excellent health). The tree's suitability for preservation was rated as good, moderate, or poor based on the species, health, age, structural condition, and the tree's potential to remain an asset to the site (Sycamore Associates LLC, 2006).

A total of 269 trees were tagged and identified representing 28 species. A complete list of tree species, their size, and rating is available in the Tree Survey and Preservation Plan in Appendix G. A proposed action (remove, tentatively preserve, or preserve) was also assigned to each tree. A total of 135 trees were recommended for removal. Trees recommended for removal include those that will be directly impacted by construction, are very close to grading cuts, have poor health or structure, or are on the District's list of undesirable tree species and have detrimental habitat value (Sycamore Associates LLC, 2006).

Wildlife

A complete list of wildlife species observed at the Project site can be found in the Biological Resources Report (Sycamore Associates LLC, 2007a) in Appendix F. Special-status species are discussed in the next section.

Birds – Suitable nesting and foraging habitat for a variety of bird species exists within the project site. Suitable habitat includes mature trees, shrubs, and an area of upland habitat consisting of scattered trees, grasses, and a pile of large boulders. Various raptors could potentially nest within the project area, especially those that can tolerate some human disturbance such as red-tailed hawks (*Buteo jamaicensis*) and American kestrels (*Falco* *sparverius*). Other raptors that could nest within the project area include Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), long-eared owl (*Asio otus*), white-tailed kite (*Elanus leucurus*), red-shouldered hawk (*Buteo lineatus*), turkey vulture (*Cathartes aura*), western screech-owl (*Otus kennicottii*), common barn owl (*Tyto alba*), and great horned owl (*Bubo virginianus*). Most raptors nest in mature, large trees and use twigs or branches as nesting material (Sycamore Associates LLC, 2007a). Smaller raptors such as American kestrel and western screech owl may nest in cavities in manmade structures and trees (Sycamore Associates LLC, 2007a). Cooper's hawk, sharp-shinned hawk, long-eared owl, and white-tailed kite are considered sensitive species.

Habitat, nesting, and foraging requirements vary among species and can include the ground, shrubs and trees, buildings, under bridges, and within cavities, crevices, and other manmade structures (Sycamore Associates LLC, 2007a). The aquatic habitat of Adobe Creek provides an excellent foraging resource for insectivores such as flycatchers (*Empidonax* spp.). The open, ruderal habitat that exists within some of the access locations and staging areas could provide both nesting habitat for ground nesting birds such as killdeer (*Charadrius vociferous*) as well as foraging habitat for seed and insect eating species (Sycamore Associates LLC, 2007a).

Fish – A site visit was conducted in November 2005 to describe existing aquatic habitat conditions and assess potential for fish species presence. During the site visit the streambed was dry upstream of W. Edith Avenue and downstream to the Robleda storm drain. When flows are present, fish cover likely exists where the bank protection structures are absent or failing and where roots of large mature trees extend into the channel. The substrate of the channel upstream of the Robleda storm drain is primarily gravel and sand, with intermittent bank stabilization hardscape. A drop structure consisting of a 6-foot drop of 1:1 sloped concrete with a 10-foot long concrete apron at its base is a barrier to fish passage (Hagar Environmental Science, 2006).

Downstream of the Robleda storm drain, continuous surface flows were present at the time of the site visit. Substrate consisted of gravel and sand with smaller cobbles and boulders. Pools were present at the location of artificial boulder weirs, a drop structure, boulders, willows, and tree roots. A drop structure consisting of a 3.5-foot drop is likely a barrier to migration of resident fish (Hagar Environmental Science, 2006).

Numerous California roach (*Hesperoleucus symmetricus*) and young Sacramento sucker (*Catostomus occidentalis*) were observed in pools downstream of the Robleda storm drain. Other species expected to reside in Adobe Creek include prickly sculpin (*Cottus asper*) and stickleback (*Gasterosteus* spp.) (Hagar Environmental Science, 2006). Anadromous steelhead and freshwater rainbow trout (*Oncorhynchus mykiss*) are considered extirpated from Adobe Creek (Sycamore Associates LLC, 2007a).

Reptiles and Amphibians – The Project site provides potential aquatic habitat and upland refugia for a variety of amphibian and reptiles including western toad (*Bufo boreas*), California slender salamander (*Batrachoseps attenuatus*), California newt (*Taricha torosa*), Pacific tree frog (*Hyla regilla*), and common garter snake (*Thamnophis sirtalis*) (Sycamore Associates LLC, 2007a). The upland areas provide suitable habitat for terrestrial species including gopher snake (*Pituophis melanoleucus*), northern alligator lizard (*Elgaria coeruleus*), and western fence lizard (*Sceloporus occidentalis*) (Sycamore Associates LLC, 2007a).

Mammals - The Project site could provide riparian and upland habitat for a variety of mammals including Virginia opossum (*Didelphis virginiana*), house mouse (*Mus musculus*), black rat

(*Rattus rattus*), eastern fox squirrel (*Sciurus niger*), California meadow vole (*Microtus californicus*), raccoon (*Procyon lotor*), and San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), ~~a Federal Species of Concern and~~ a California Species of Special Concern (Sycamore Associates LLC, 2007a). Virginia opossum, house mouse, black rat, and eastern fox squirrel are not native to the area. Several bat species including pallid bat (*Antrozous pallidus*), a California Species of Special Concern, big brown bat (*Eptesicus fuscus*), red bat (*Lasiurus blossevillii*), California bat (*Myotis californicus*), western mastiff bat (*Eumops perotis*), a California Species of Special Concern, long-eared myotis (*Myotis evotis*), a Federal Species of Concern, little brown bat (*Myotis lucifugus*), fringed myotis (*Myotis thysanodes*), a Federal Species of Concern, long-legged myotis (*Myotis volans*), a Federal Species of Concern, and Yuma myotis (*Myotis yumanensis*), a Federal Species of Concern (Sycamore Associates LLC, 2007a) also have some potential to occur in the study area.

Sensitive Biological Resources

Sensitive Plant Species – Special-status plant species include those listed as Endangered, Threatened, Rare or those species proposed for listing by the U.S. Fish and Wildlife Service, the California Department of Fish and Game, and the California Native Plant Society (Sycamore Associates LLC, 2007a). Detailed discussion of these listings is included in Section 4.3 of the Biological Resources Report (Sycamore Associates LLC, 2007a) in Appendix F.

Based on a literature review and a familiarity with the flora within the project region, a total of 42 special-status plant species were considered to have at least some potential to occur within the region or have been recorded historically in the project vicinity (Table 1 of Appendix F). None of these are expected to occur within the study area based on a lack of suitable habitat, or they are presumed absent based on negative findings during focused botanical surveys conducted in 2006 (Sycamore Associates LLC, 2007a).

Sensitive Wildlife Species – Special-status wildlife species include those listed by the U.S. Fish and Wildlife Service under the federal Endangered Species Act and by the California Department of Fish and Game under the California Endangered Species Act. Additional species receive federal protection under the Bald Eagle Protection Act, the Migratory Bird Treaty Act, and state protection under CEQA §15380(d). All birds, except European starlings (*Sturnus vulgaris*), English house sparrows (*Passer domesticus*), and rock doves or pigeons (*Columba livia*) are protected under the Migratory Bird Treaty Act. The Sacramento Branch of the U.S. Fish and Wildlife Service and California Department of Fish and Game also maintain independent lists, which are discussed in detail in Section 4.3 of the Biological Resources Report (Sycamore Associates LLC, 2007a) in Appendix F.

Based on a literature review and a familiarity of the fauna within the project region, a total of 59 special-status wildlife species were considered to have at least some potential to occur within the region or have been recorded historically in the project vicinity (Sycamore Associates LLC, 2007a). Table 2 of Appendix F lists these special-status wildlife species and their potential to occur on site. No special-status invertebrates, reptiles, or fish are expected to occur on site (Sycamore Associates LLC, 2007a). One amphibian, the California red-legged frog (*Rana aurora draytonii*), a federally-listed Threatened Species and a California Species of Special Concern, has a very low potential to occur on site due to channelization of the stream corridor and lack of access to upland refugia due to hardscape surfaces, and scattered cover for predation avoidance (Sycamore Associates LLC, 2007a).

Special-status bird species include seven species with moderate to high potential to occur on site. These species and their potential to occur on site are listed in Table 4 below. The oak titmouse, a Federal Species of Local Concern, was observed foraging on site during the biological reconnaissance site visit (Sycamore Associates LLC, 2007a).

Table 4: Special-status bird species with moderate to high potential to occur on site

Common Name	Scientific Name	Potential to Occur on Site	Federal Status*	State Status
Oak titmouse	*Baeolophus inornatus*	Observed	SLC	None
Cooper's hawk	*Accipiter cooperii*	High	None	CSC
Sharp-shinned hawk	*Accipiter striatus*	High	None	CSC
Nuttall's woodpecker	*Picoides nuttallii*	High	SLC	None
White-tailed kite	*Elanus leucurus*	Moderate	FSC	CFP
Long-eared owl	*Asio otus*	Moderate	None	CSC
Lawrence's goldfinch	*Cardualis lawrencei*	Moderate	FSC	None

SLC =Species of Local Concern or Conservation Importance (Sacramento Fish and Wildlife Office)
FSC =Federal Species of Concern (Sacramento Fish and Wildlife Office)
CSC =California Species of Special Concern
CFP =Fully protected under the California Fish and Game Code
*All species in Table 4 are protected under the Federal Migratory Bird Treaty Act

Special-status mammal species with some potential to occur on site include five special-status bat species. These species are pallid bat, long-eared myotis, fringed myotis, long-legged myotis, and Yuma myotis. All of these species have a low potential to occur on site except the fringed myotis which has a very low potential to occur on site (Sycamore Associates LLC, 2007a). The San Francisco dusky-footed woodrat, ~~a Federal Species of Concern and~~ a California Species of Special Concern has a low potential to occur on site (Sycamore Associates LLC, 2007a).

Sensitive Habitats

Sensitive natural communities are those that are considered rare in the region, support special-status plant or wildlife species, or receive regulatory protection (Sycamore Associates LLC, 2007a). Three sensitive habitats, including two natural plant communities were found within the Project footprint: remnant coast live oak riparian forest; coastal and valley freshwater marsh; and aquatic seasonally dry, unvegetated waters of the U.S (Sycamore Associates LLC, 2007a). Remnant coast live oak riparian forest and coastal and valley freshwater marsh are discussed above. Aquatic seasonally dry, unvegetated waters of the U.S. falls within the ordinary high water limits within the active stream channel, where the water table is near the surface of the alluvial sand and gravel (Sycamore Associates LLC, 2007a).

Wetland Delineation and Jurisdictional Determination

A formal wetland delineation and jurisdictional determination of waters of the U.S. was conducted for the Project site in October and November 2005 and finalized in January 2007. The methodology used for completing the delineation and jurisdictional determination was in accordance with the U.S. Army Corps of Engineers (Corps) Wetlands Delineation Manual (Sycamore Associates LLC 2007b). A determination of jurisdictional waters of the U.S. was based on topography and the presence of field indicators including vegetation, hydrology, and soils. The extent of jurisdictional features within the Project site are shown in Figure 14.

Waters of the United States - Within the Project site, a total of 0.35 acre (15,306 square feet, 1,263 linear feet) of potential U.S. Army Corps of Engineers jurisdictional wetlands and other waters of the U.S. were observed. This includes 0.05 acre (2,310 square feet, 190 linear feet) of freshwater marsh and 0.30 acre (12,996 square feet, 1,073 linear feet) of unvegetated waters. No waters of the U.S. were found in the staging areas in Edith Park and at APN 175-25-067 (private property), or along the access routes (Sycamore Associates LLC, 2007b).

Waters of the State - State waters as defined by California Fish and Game Code and the Porter-Cologne Act (either top-of-bank of the high flow channel or the drip-line of the fringing riparian canopy) were found. Native and non-native canopy cover were mapped separately and further identified as non-native canopy with a hardscape understory, when applicable. For Adobe Creek Upper Reach 5, Porter-Cologne waters were identical to California Department of Fish and Game (Section 1600) waters. For the Project site, a total of 1.71 acres of State waters were observed (Sycamore Associates LLC, 2007b). These areas are summarized in Table 5.

Table 5: Summary of Waters of the U.S. and Waters of the State

Resource	Area in Acres	Area in Square Feet	Distance in Linear Feet
Waters of the U.S.			
Unvegetated Waters of the U.S.	0.30	12,996	1,073
Wetland (Freshwater Marsh)	0.05	2,310	190
Total Federal Jurisdictional Wetlands and Other Waters	**0.35**	**15,306**	**1,263**
Waters of the State			
Area Within Top of Bank (Includes all Waters of the U.S.)	0.77	33,495	--
Native Riparian Canopy (Measured Outside Top of Bank)	0.14	6,127	--
Non-Native Riparian Canopy (Measures Outside Top of Bank)	0.77	33,580	--
Non-Native Riparian Canopy with Hardscape Understory (Measured Outside Top of Bank)	0.03	1,248	--
Total Potential Waters of the State	**1.71**	**74,450**	**1,263**[5]

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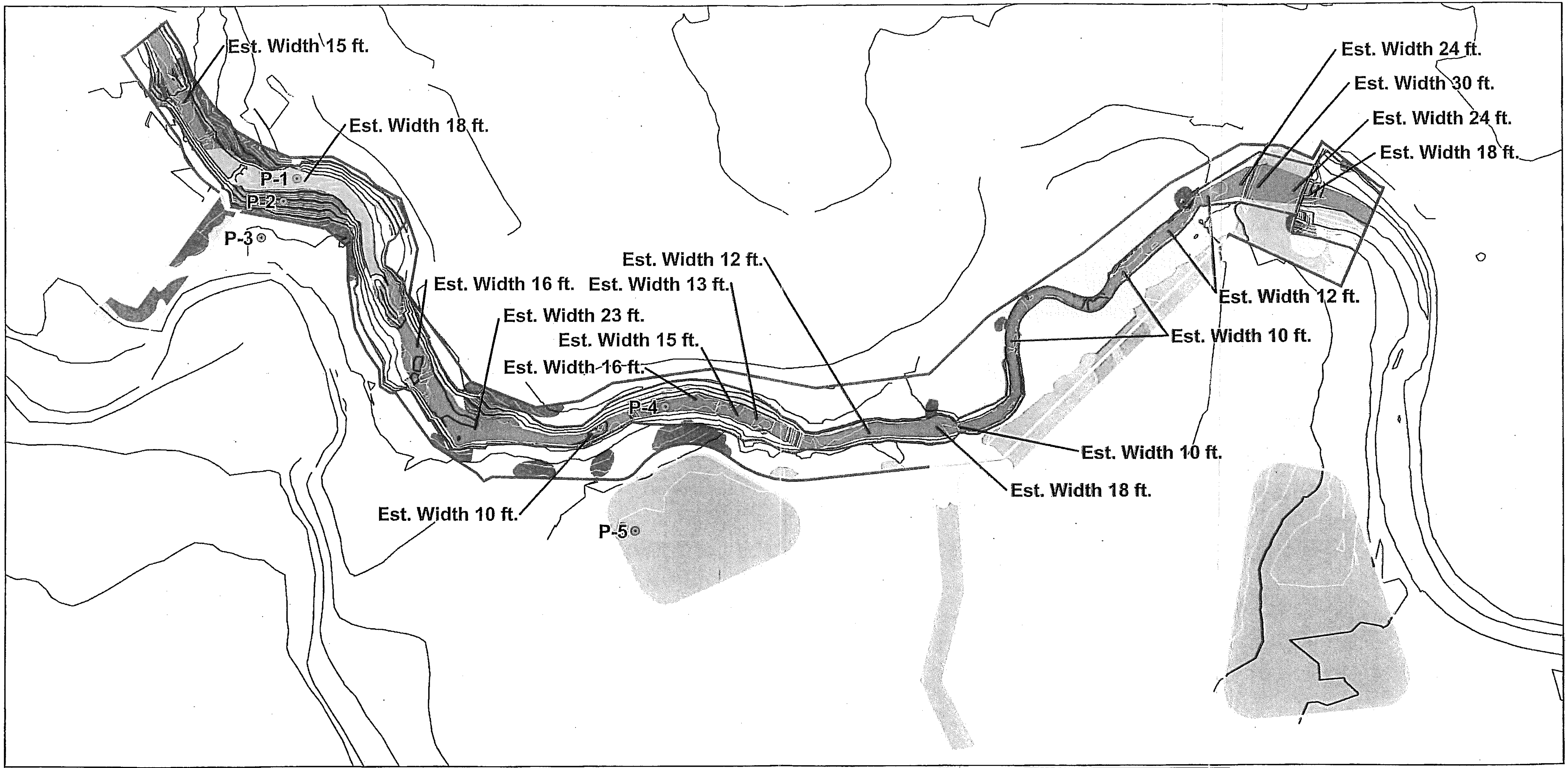
[5] Linear feet are not provided for each habitat type under Waters of the State because the numbers are not additive. A linear measurement of State jurisdictional waters as a whole has been provided and area measurements for each habitat type that falls within that length.

Figure 14: Existing jurisdictional features within Adobe Creek Upper Reach 5



Wetland Delineation and Preliminary Jurisdictional Determination for Adobe Creek Upper Reach 5

Adobe Creek Upper Reach 5

Santa Clara Valley Water District

Los Altos & Los Altos Hills, Santa Clara County, California
Revised 1/17/07

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Legend

- ▨ Unvegetated Waters: 12,996 sq. ft. (0.30 acre) 1,073 lin. ft.
- ▨ Freshwater Marsh: 2,310 sq. ft. (0.05 acre) 190 lin. ft.
- Total Potential USACE Jurisdictional Waters: 15,306 sq. ft. (0.35 acre) 1,263 lin. ft.
- ○ Top of Bank - 33,495 ft. sq. (0.77 acre)
- ▨ Native Riparian Canopy*: 6,127 sq. ft. (0.14 acre)
- Non-Native Riparian Canopy*: 33,580 sq. ft. (0.77 acre)
- ▨ Non-Native Riparian Canopy with Hardscape Understory*: 1,248 sq. ft. (0.03 acre)
- Total Potential Waters of the State: 74,450 sq. ft. (1.71 acres) 1,263 lin. ft.
- ▨ Ruderal Landscape/Hardscape*: 44,461 sq. ft. (1.02 acres)
- ⊙ Data Point
- Staging Area & Access Points
- ○ Study Boundary
- \ Estimated Width of Ordinary High Water (in ft.)

*Measurements given for riparian canopy and ruderal/hardscape are for areas falling outside top of bank.

1 inch equals 75 feet 1:900
0 75 150
Feet

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Regulatory Framework

Federal Regulations

Clean Water Act, Section 401 - Section 401 requires states to certify that any activity subject to a permit issued by a federal agency meets all state water quality standards. The State Water Resources Control Board and the Regional Water Quality Control Board are responsible for taking certification actions (401 certifications) for activities subject to any permit issued by the Corps pursuant to Section 404 or Section 10 of the Rivers and Harbors Act. Water quality certification includes issuing a 401 certification that the activity subject to the federal permit complies with state water quality standards. Water quality certifications for the project area are issued by the Regional Water Quality Control Board, Region 2.

Clean Water Act, Section 404 – Section 404 establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Areas meeting the regulatory definition of "Waters of the United States" are subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps). The Corps under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899) has jurisdiction over "Waters of the U.S." These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as "Waters of the U.S.", tributaries of waters, the territorial seas, and wetlands adjacent to "Waters of the U.S." Wetlands themselves are considered to be "Waters of the United States" (Sycamore Associates LLC, 2007b).

The Corps limits of jurisdiction in non-tidal waters of the United States extend to the ordinary high water mark (in the absence of adjacent wetlands), or beyond the ordinary high water mark to the limit of the adjacent wetlands. When the water of the United States consists only of wetlands, the jurisdiction extends to the limit of the wetland.

The Corps may issue an Individual Permit or a Nationwide Permit. A Nationwide Permit (NWP) is a form of the Corps' 404 general permit, which authorizes a category of activities under the Nationwide Permit Program.

Endangered Species Act of 1973 - The Endangered Species Act provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The U.S. Fish and Wildlife Service maintains the list of endangered and threatened animal and plant species. The law prohibits any action, administrative or real, that results in a "taking" of a listed species, or adversely affects habitat. Likewise, import, export, interstate, and foreign commerce of listed species are prohibited.

State Regulations

California Department of Fish and Game Code, Section 1600 – The Department of Fish and Game is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the law requires any person, state or local governmental agency, or public utility to notify the Department before beginning an activity that will substantially modify a river, stream, or lake. If the Department determines that the activity could substantially adversely affect an existing fish and wildlife resource, a Lake or Streambed Alteration Agreement is required.

Fish and Game Code Section 1602 (a)(1) states, "An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, unless ... The department receives written notification regarding the activity in the manner prescribed by the department."

Porter-Cologne Act- Under California's Porter-Cologne Water Quality Control Act, the regional boards regulate the "discharge of waste" to "waters of the state". All parties proposing to discharge waste that could affect waters of the state must file a report of waste discharge with the appropriate regional board. The regional board will then respond to the report of waste discharge by issuing waste discharge requirements (WDRs) in a public hearing for that proposed discharge. Waters of the State are defined as any surface water or groundwater, including saline waters, within the boundaries of the state. Examples include, but are not limited to, rivers, streams, lakes, bays, marshes, mudflats, unvegetated seasonally ponded areas, drainage swales, sloughs, wet meadows, natural ponds, vernal pools, diked baylands, seasonal wetlands, and riparian woodlands.

Local Regulations

City of Los Altos – Los Altos' Municipal Code Title 11, Chapter 11.08 contains the City's Tree Protection Regulations for Heritage and Protected Trees. A heritage tree is defined as "any tree so designated by the historical commission, based on the finding that the tree has character, interest, or value as part of the development of, and/or exemplification of, the cultural, educational, economic, agricultural, social, indigenous, or historical heritage of the city." A protected tree is "any of the following:

A. Any tree designated by city council resolution;
B. Any tree designated by the historical commission as a heritage tree or any tree under official consideration by the historical commission for heritage tree designation;
C. Any tree located on property zoned other than R1;
D. Any tree which was required by the city to be either saved or planted in conjunction with a development review application filed on or after April 23, 1993;
E. Any tree located on undeveloped property or on developed property where additional development or redevelopment is anticipated (11.08.040). "

The City requires a tree removal permit prior to removal of any protected tree (11.08.060). The City also requires that trees designated for preservation be protected during construction (11.08.130). Protection methods include installing protective fencing at the dripline, maintaining existing grade around a tree to the dripline, installation of drain wells when impervious surfaces will be placed over the root system, and repair of trees damaged by construction using accepted arboriculture methods.

Town of Los Altos Hills – Title 12, Chapter 2, Articles 3-5 of the Los Altos Hills Municipal code defines heritage oak and heritage tree separately and includes requirements for heritage tree removal and protection. The Town defines a heritage oak as "any tree of the genus quercus, including, but not limited to, Valley Oak (*Quercus lobata*), California Live Oak (*Quercus agrifolia*), Black Oak (*Quercus kelloggii*) and Blue Oak (*Quercus douglasii*) that has a trunk or multiple trunk thirty-six (36) inches in circumference (approximately twelve (12") inches in diameter) at a point four (4') feet above the root crown (12-2.112)." The Town requires that a permit be obtained prior to removing or destroying a heritage oak (12-2.302) and may attach reasonable conditions to the approval of a removal permit, including, but not limited to, the requirement that up to five (5) trees be planted for each one removed (12-2.306)". A heritage tree is defined as "any tree that, due to age, size, location, visibility, historic nature, or other unique attribute, has been deemed by the Town to be a heritage tree and accordingly deserves special consideration for preservation and protection (12-2.113)."

Impact Analysis

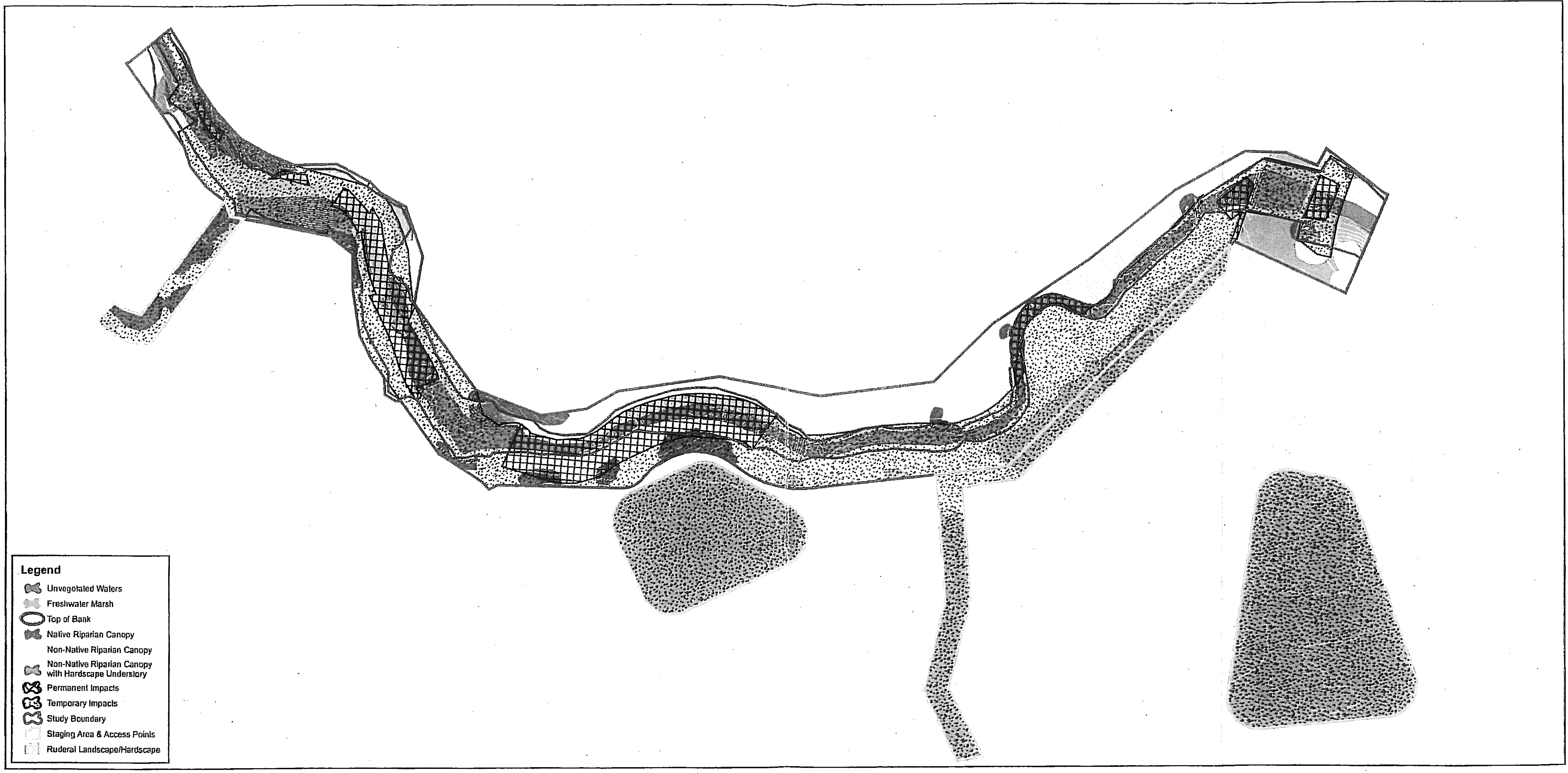
Criteria for Determining Significance

According to the CEQA Guidelines, Appendix G, biological resources impacts are considered potentially significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, polices or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?
- Have a substantial adverse effect on federal protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marsh vernal pool, coastal, etc) through direct removal, filling hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan.

Impacts to biological resources are described in this section. Impacts to jurisdictional features are described and are shown in Figure 15. The impact analysis areas included the grading and work area limits, the two staging areas, and the access routes. Impacts were then identified as either permanent or temporary. Areas that will be revegetated or restored after construction are considered temporary impacts. A summary of permanent and temporary construction-related impacts to vegetation communities and aquatic habitats is presented in Table 6. Implementation of the mitigation measures, all of which are part of the project, will reduce all significant biological impacts to a less than significant level.

Figure 15: Impacts of the Adobe Creek Upper Reach 5 Project to jurisdictional features


Legend
Unvegetated Waters
Freshwater Marsh
Top of Bank
Native Riparian Canopy
Non-Native Riparian Canopy
Non-Native Riparian Canopy with Hardscape Understory
Permanent Impacts
Temporary Impacts
Study Boundary
Staging Area & Access Points
Ruderal Landscape/Hardscape

Impacts to Jurisdictional Features

Adobe Creek Upper Reach 5
Santa Clara Valley Water District

Los Altos & Los Altos Hills, Santa Clara County, California
Revised 1/24/07

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USACE Impacts		sq. ft.	acres	lin. ft.
Unvegetated Waters	Permanent	4,797	0.11	431
	Temporary	7,451	0.17	613
Freshwater Marsh	Permanent	964	0.02	104
	Temporary	1,345	0.03	86
Total USACE Impacts	Permanent	5,761	0.13	535
	Temporary	8,796	0.20	699

State Impacts		sq. ft.	acres	lin. ft.
Top of Bank (includes all waters of the U.S.)	Permanent	9,903	0.23	535
	Temporary	19,378	0.44	699
Native Riparian Canopy*	Permanent	525	0.01	0
	Temporary	4,431	0.10	0
Non-Native Riparian Canopy*	Permanent	1,995	0.05	0
	Temporary	17,192	0.39	0
Non-Native Riparian Canopy with Hardscape Understory*	Permanent	0	0.00	0
	Temporary	1,106	0.03	0
Total State Impacts	Permanent	12,423	0.29	535
	Temporary	42,107	0.97	699

*Measurements given for riparian canopy and ruderal/hardscape are for areas falling outside top of bank.

1 inch equals 75 feet 1:900

0 75 150 Feet

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Impacts to Riparian Habitat

Riparian habitat includes both native riparian canopy and non-native riparian canopy. Construction of the Project would result in 0.01 acre of permanent impacts and 0.10 acre of temporary impacts to native riparian canopy. The Project would also result in 0.05 acre of permanent impacts and 0.42 acre of temporary impacts to non-native riparian canopy. (Sycamore and Associates LLC, 2007a). Temporary impacts would include, but are not limited to, trimming of coast live oak trees immediately adjacent to areas to be graded and utilizing the access location located in the downstream section of the Project reach (between APNs 175-10-015 and 175-10-003).

Riparian habitat that is impacted by construction of the Project will be restored with ~~0.96~~ 0.76 acre of riparian trees and shrubs appropriate for this reach of Adobe Creek (Mitigation measure BIO-1). The overall goal of restoration will be to compensate for the loss of mature trees by creating a natural riparian corridor of diverse plant species and varying canopy heights. Plants will consist of evergreen trees and shrubs, deciduous trees and shrubs, flood tolerant woody shrubs and herbaceous plants, and ground cover. Tree species and size will be selected based on their appropriateness for the area and will be selected from a list of preferred plant species provided by the ACWG. The majority of trees will be native species preferably planted as stakes or seeds collected from the Adobe watershed. If tree species are not available from the Adobe watershed, trees will be selected from neighboring watersheds. The majority of the planting area will occur on the Los Altos Hills side of the creek and includes the creek bank starting from bankfull to top of bank and a 20-foot wide planting area extending from the top of the bank. Larger, more mature trees will be planted on the tops of the banks at properties APN 175-25- 068, APN 175-25-067, and APN 175-25-066 to provide immediate habitat benefit and create a natural appearance to the neighboring property owners. The replacement of non-native trees with locally-grown native species provides an overall benefit to the riparian corridor and aquatic habitat. In addition, similar habitat of tall, mature trees and understory vegetation will remain downstream of the Robleda storm drain, on the east (Los Altos) side of the creek, and upstream in Edith Park. Additional native understory vegetation such as shrubs and willows will be planted on the creek banks and upland areas. Two Canary Island date palm (*Phoenix canariensis*) trees that are being removed as part of project construction will be transplanted on the same property from which they were removed. These trees will be transplanted outside of the mitigation area and project boundary.

A conceptual revegetation plan is shown in Figure 16. As indicated, this plan is only conceptual and will be further defined with the Collaborative. Plantings will be monitored for ten years and will follow the success criteria outlined in mitigation measure BIO-2. Specific tree species, sizes, and planting locations will be agreed upon by the properties owners and the District prior to planting.

Impacts to riparian habitat are less than significant with mitigation.

BIO-1: Replant riparian habitat - Plant ~~0.96~~ 0.76 acres of appropriate native riparian trees and shrubs on-site. Bank protection plantings and trees will be replanted with locally collected seeds or seedlings grown from locally collected seeds. Riparian plantings shall be in accordance with the District's revegetation guidelines. Additional trees will be planted behind (south of) the row of trees categorized as "tentatively recommended for preservation" on property APN 175-25-068 to mitigate for the possible loss of these trees in the future as a result of construction. Trees will be monitored annually for ten years or until the success criteria outlined in mitigation measure BIO-2 and the Mitigation Monitoring Plan are met.

BIO-2: Success criteria – Trees will be monitored annually for ten years or until the success criteria are met. Success criteria will include survival, health and vigor, and percent cover.

Impacts to Trees

The Project will require the removal of 64 trees that will be removed as part of construction, including 11 native and 53 non-native species. A complete list of trees to be removed, including size and condition is included in Appendix I. The majority of the trees that will be removed are located upstream of the Robleda storm drain on the south (Los Altos Hills) side of the creek. The 64 trees that would be removed during construction are a subset of the 135 trees recommended for removal in the Tree Survey and Preservation Plan (Sycamore and Associates LLC, 2007b) and described in the Environmental Setting of this section of the SEIR. The Project would only remove those trees directly impacted by construction. Trees to be removed are shown in Figure 17. The 11 native trees include 3 blue elderberries, 2 California bay laurels, 2 California buckeyes, and 4 Coast live oaks. One Coast live oak is considered a Heritage Oak as defined by the Town of Los Altos Hills Municipal Code. Removal of this Heritage Oak is exempt from the Town's permit requirements pursuant to Section 12-2.305.b of the Los Altos Hills Municipal Code, see Appendix J (Pedro, pers. comm.). Two of the elderberries and one of the California buckeye were described as being in poor health and structure and are recommended for removal (Sycamore and Associates LLC, 2007b). The other native trees that will be removed will be directly impacted by construction as they are in the location of the new creek channel. Included in the list of trees to be removed are 5 Coast redwoods. One Coast redwood is described as being in poor health and structure (Sycamore and Associates LLC, 2007b).

The loss of 64 trees would reduce the amount of riparian habitat for nesting and foraging for bird species that have potential to occur on site. These trees also support the aquatic habitat because they provide shade, food, and cover in the form of root wads to aquatic species. The riparian corridor and upland areas also provide habitat for mammals, amphibians, and reptiles. Mitigation measures BIO-1 and BIO-2 discussed above will replace the lost trees with ~~0.96~~ 0.76 acres of riparian habitat appropriate for Adobe Creek Upper Reach 5. Impacts and mitigation measures associated with wildlife and special-status species are discussed in relevant sections below.

In addition to the trees identified for removal, additional trees have been categorized as "tentatively recommended for preservation", meaning more information is needed to evaluate the trees ability to survive construction impacts due to the closeness of the tree to the grading line (Sycamore and Associates LLC, 2007b). Eighteen of these trees are located on the Los Altos Hills side of the creek immediately downstream of W. Edith Avenue (APN 175-25-068). Five of these trees were recommended by the arborist for removal in the Tree Survey and Preservation Plan (Sycamore and Associates LLC, 2007b), however; since they are not located within the new creek channel, they will remain in place. The likelihood of these trees surviving construction impacts varies depending on tree species and distance of the tree to the grading line. For example, eight of the trees are Oriental arborvitae, which are small multi-stemmed trees that will likely tolerate construction impacts. Six of the trees are California incense cedar, which have a moderate tolerance to development impacts, but could become hazardous if the structural stability of the tree is compromised during construction (Sycamore and Associates LLC, 2007b). One tree to be "tentatively preserved" is a Heritage Oak (*Quercus agrifolia*) as defined by the Town of Los Altos Hills. One additional tree, a California buckeye, to be "tentatively preserved" is located downstream of the Robleda storm drain (Sycamore and Associates LLC, 2007b).

Mitigation measures will be implemented during construction to avoid or minimize impacts to the trees "tentatively recommended for preservation". Additional trees will be planted on the south side of the existing row of trees on APN 175-25-068, to mitigate for the possible loss of these trees in the future. Mitigation measures BIO-3 through BIO-9 will be implemented to reduce impacts to trees during construction and maintain and improve their health post-construction (Sycamore and Associates LLC, 2007b).

Impacts to trees are less than significant with mitigation.

BIO-3: Monitor tentatively preserved trees – An ISA certified arborist shall monitor trees along APN 175-25-068 during construction to determine whether to preserve or remove trees when grading cuts are made. Trees removed from this area will be replanted as described in BIO-1 and BIO-2.

BIO-4: Pre-construction meeting - Prior to start of construction, The District's engineer, the Contractor, and the certified arborist shall meet to:

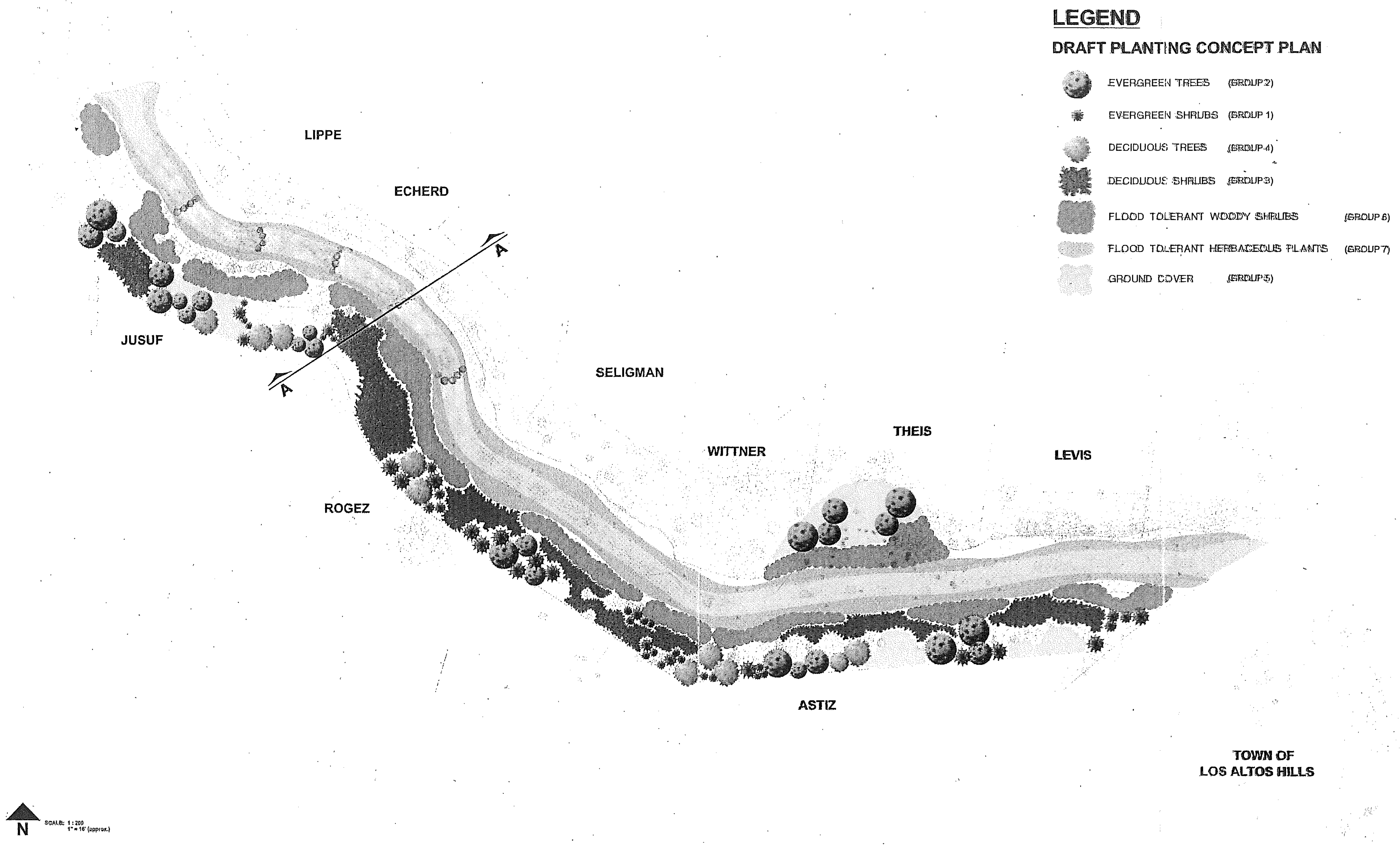
- determine the location of tree protection fencing,
- review planned work procedures around trees such as demolition of existing hardscape and excavation of the creek channel,
- review the need for certified arborist approval for any adjustment of the tree protection fencing and/or need to work within the fenced areas,
- identify location where specialized treatments are required, and
- review the requirements for clearance pruning based on contractor's equipment.

BIO-5: Tree removal - Tree removal shall be performed by a tree care contractor possessing a State of California Contractor's License for Tree Service (C61-D49). All tree removal shall be supervised by an ISA certified arborist. All trees to be removed will be identified by flagging or paint.

BIO-6: Tree pruning - Pruning should be kept to the minimum necessary for safety, improving long-term tree structure, and providing clearance for construction equipment. All pruning shall be performed by a tree care contractor possessing a State of California Contractor's License for Tree Service (C61-D49). All pruning shall be supervised by an ISA certified arborist. All pruning shall be in accordance with the Tree Pruning Guidelines (International Society of Arboriculture) and adhere to the most recent editions of the American National Standard for Tree Care Operations (ANSI Z133.1) and Pruning (A300).

BIO-7: Tree Protection Zone - A tree protection zone will be established for all trees to be preserved and will be identified using either the dripline method or trunk diameter method, whichever is greater, as defined in the Tree Survey and Preservation Plan. The tree protection zone will be fenced prior to beginning of construction. No grading, construction, trenching, demolition, vegetation removal, or other work will be allowed in this area. No equipment, debris, or materials will be dumped or stored within the zone. Any work that needs to occur within the zone will be directly supervised by an ISA certified arborist. Any modifications to the tree protection zone must be approved and monitored by the certified arborist.

Figure 16: Conceptual revegetation plan for Adobe Creek Upper Reach 5


LEGEND
DRAFT PLANTING CONCEPT PLAN
EVERGREEN TREES (GROUP 2)
EVERGREEN SHRUBS (GROUP 1)
DECIDUOUS TREES (GROUP 4)
DECIDUOUS SHRUBS (GROUP 3)
FLOOD TOLERANT WOODY SHRUBS (GROUP 6)
FLOOD TOLERANT HERBACEOUS PLANTS (GROUP 7)
GROUND COVER (GROUP 5)
LIPPE
ECHERD
A
A
JUSUF
SELIGMAN
THEIS
WITTNER
LEVIS
ROGEZ
ASTIZ
TOWN OF
LOS ALTOS HILLS
N
SCALE: 1 : 200
1" = 16' (approx.)

PREPARED BY:

EDAW, INC.

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SANTA CLARA VALLEY WATER DISTRICT

ADOBE CREEK UPPER REACH 5

CONCEPTUAL
PLANTING PLAN

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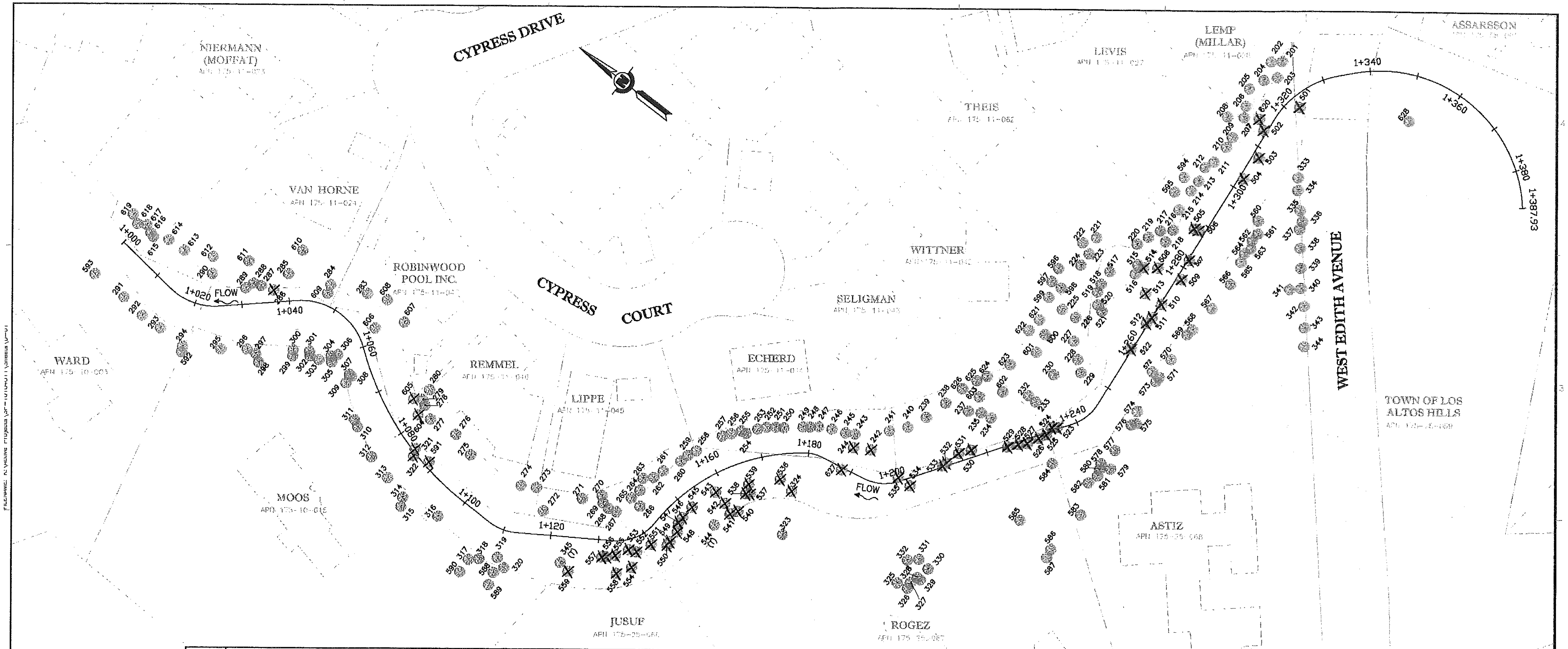
05010040.01



TREE REMOVAL SURVEY CHART

TREE NO.	SURVEY POINT NUMBERS	DESCRIPTION	TREE NO.	SURVEY POINT NUMBERS	DESCRIPTION	TREE NO.	SURVEY POINT NUMBERS	DESCRIPTION	TREE NO.	SURVEY POINT NUMBERS	DESCRIPTION
242	6213	COAST REDWOOD	512	6110	ORIENTAL ARBORVITAE	537	6242	CALIFORNIA BUCHEYE	555	6281	GLOSSY PRIVET
244	6214	COAST REDWOOD	513	6108	BLACKWOOD ACACIA	538	6243	COAST LIVE OAK	556	6280	GLOSSY PRIVET
286	6305	ELDERBERRY	514	6103	BLUE GUM	539	–	CALIFORNIA BAY	557	6279	GLOSSY PRIVET
321	6383	LOMBARDY POPLAR	522	6124	CLACKWOOD ACACIA	540	6247	GLOSSY PRIVET	558	6285	COAST LIVE OAK
322	6382	LOMBARDY POPLAR	523	6178	BLUE GUM	541	6244	GLOSSY PRIVET	559	6277	BLUE GUM
324	6239	COAST REDWOOD	524	6179	BLUE GUM	542	6245	BLUE GUM	591	–	LOMBARDY POPLAR
345	6278	CANARY ISLAND DATE PALM (TRANSPLANT)	525	6198	BLUE GUM	543	6246	COAST LIVE OAK	604	–	CALIFORNIA BUCKEYE
501	6073	NORTHERN CALIFORNIA BLACK WALNUT	526	6197	BLUE GUM	544	6248	CANARY ISLAND DATE PALM (TRANSPLANT)	605	6296	NORTHERN CALIFORNIA BLAK WALNUT
502	6074	BLUE GUM	527	6196	BLUE GUM	545	6250	BLUE GUM	620	–	BLUE GUM
503	6087	BLACKWOOD ACACIA	528	6195	BLUE GUM	546	6251	BLUE GUM	627	–	ELDERBERRY
504	6088	BLACKWOOD ACACIA	529	6180	BLUE GUM	547	6252	RED IRONBARK			
505	6086	COAST REDWOOD	530	6192	BLUE GUM	548	6253	GLOSSY PRIVET			
506	6086*	COAST REDWOOD	531	6191	BLUE GUM	549	6254	RED IRONBARK			
507	6093	BLACKWOOD ACACIA	532	6190	BLUE GUM	550	6255	ELDERBERRY			
508	6102	BLUE GUM	533	6189	BLUE GUM	551	6257	BLUE GUM			
509	6096	ORIENTAL ARBORVITAE	534	6184	BLUE GUM	552	6259	BLUE GUM			
510	6097	ORIENTAL ARBORVITAE	535	6183	NORTHERN CALIFORNIA BLACK WALNUT	553	6283	GLOSSY PRIVET			
511	6109	BLACKWOOD ACACIA	536	6240	CALIFORNIA BAY	554	6284	COAST LIVE OAK			

Figure 17: Adobe Creek Upper Reach 5 – Proposed Trees to be Removed

BIO-8: Pre-construction orientation - A pre-construction meeting will be conducted by an ISA certified arborist to explain the tree protection requirements to all construction supervisors and inspectors. All on-site personnel shall be oriented on tree preservation measures and rules.

BIO-9: Tree protection guidelines during construction – Specific construction procedures will be employed during project construction. These procedures include:

- Existing hardscape must be demolished without damaging tree roots.
- Trees to be preserved that are located at or near the grading line, must be root-pruned prior to excavation of the new channel. Once the edge of the channel has been staked, roots along the edge must be pruned during excavation. As roots are encountered, they are to be pruned at the edge of excavation under supervision of an ISA certified arborist.
- Root pruning required for construction purposes shall receive prior approval of, and be supervised by the certified arborist. Any roots greater than 1 inch in diameter that are injured (torn, broken, wounded, desiccated, etc.) during construction must be pruned to a point 1 inch behind the edge of the damage.
- Supplemental irrigation is required whenever tree roots are uncovered or severed by trenching or grading. Open trenches with exposed roots require a two-layer minimum of damp burlap or other acceptable covering at all times. Exposed roots should be kept moist until they can be buried. An ISA certified arborist will determine the amount of supplemental watering required based on evaluation of soil moisture and weather conditions. Any damage to existing irrigation systems must be reported to the Project Superintendent and District Engineer.
- Injury to any tree during construction, including broken branches, must be evaluated as soon as possible by the certified arborist so that appropriate treatment(s) can be applied.

Impacts to Freshwater Marsh

Construction of the Project would permanently impact 0.02 acre and temporarily impact 0.03 acre of freshwater marsh (Sycamore and Associates, LLC, 2006a). Permanent impacts would result from the placement of rock grade control structures within the creek channel. Temporary impacts would result from construction equipment and activities in the creek channel associated with the placement of rock boulders.

Freshwater marsh is expected to re-colonize through natural recruitment on-site. Widening of the upstream section of the reach and removal of the hardscape creek bottom may result in colonization by freshwater marsh vegetation, resulting in more jurisdictional wetland than pre-construction conditions. To ensure that freshwater marsh vegetation does colonize the reach after construction, the site will be monitored annually for five years post-construction, or less if marsh habitat has been established. If freshwater marsh vegetation is not present within the project reach after the fifth year, the site will be seeded with seeds collected from Adobe Creek.

Impacts to freshwater marsh are less than significant with mitigation.

BIO-9.1: Monitor freshwater marsh – The project reach will be monitored by a qualified biologist annually for five years, or less if vegetation is established, after the completion of construction to determine if freshwater marsh is re-colonizing the site. If, after five years, freshwater marsh vegetation does not exist within the project reach, the site will be seeded with seeds collected from Adobe Creek freshwater marsh plant species."

Impacts to Fisheries

Short-term, temporary construction impacts to the aquatic environment will be minimal during construction if the streambed is dry (Hagar Environmental Science, 2006). If stream flow is present, dewatering during construction would involve temporary loss of aquatic habitat in the dewatered areas. There are no special-status fish species expected in the project area and native fish present are widely distributed in the region. Most aquatic organisms are expected to re-colonize impacted areas within a relatively short time following project construction if post-project habitat conditions are suitable (Hagar Environmental Science, 2006).

Permanent features of the Project include the installation of rock grade control structures (weirs), step pools, and the installation of rock slope protection. The placement of rock boulders in the creek would provide cover for some native fish species. Although boulders are inappropriate for spawning for most native fishes, streambed fill material will placed in the stream bottom to match the natural substrate found in Reach 6. This is considered an improvement from the existing concrete stream bottom that lines the upstream section of Upper Reach 5.

The Project will remove barriers to the movement of native fish species. Also, the rock weirs will result in the formation of deep pools and graded substrate with gravel accumulations at the downstream end of the pools, potentially providing a benefit to native fish populations (Hagar Environmental Science, 2006).

Impacts to fisheries are less than significant.

Impacts to Special-Status Species

Special-Status Birds – The Project will temporarily impact 0.10 acre and permanently impact 0.01 acre of oak riparian forest. Impacts to non-native riparian canopy include 0.42 acre of temporary impacts and 0.05 acre of permanent impacts. The riparian canopy provides potential nesting and foraging habitat for a number of bird species including special-status species that have a high and moderate potential to occur within the Project site. The removal of large trees and shrubs will result in the loss of potential nest sites, until replanted trees are large enough to provide nesting habitat (Sycamore Associates LLC, 2007a). Existing trees on both sides of the creek and in Edith Park could provide alternate nesting locations for birds. These trees are similar in species and stature as those that are being removed.

Bird nesting season typically begins in February and continues through August. Since construction will begin in April, noise and vibrations associated with construction activities will result in temporary disturbance to potential nest sites within trees adjacent to the project area and under W. Edith Avenue Bridge. Disturbance in nest sites from construction activities could result in nest abandonment, damage to eggs and/or chicks, and premature fledging (Sycamore Associates LLC, 2007a). Removal of trees and shrubs during the nesting season could result in the loss of active nest sites, eggs, chicks, and/or adult birds (Sycamore Associates LLC, 2007a).

Measures will be implemented to avoid or reduce impacts to nest sites and nesting birds. Trees that will be removed during construction will be topped off prior to the nesting season by January 15th (Mitigation measure BIO-10). Exclusion netting will be installed under W. Edith Avenue Bridge prior to nesting season to prevent birds from nesting under the bridge (Mitigation measure BIO-11). Pre-construction surveys for active nests will be performed by a qualified biologist no more than 14 days prior to tree removal and project construction (Mitigation measure BIO-12).

Raptor nests are protected throughout the year because raptors typically will return to the same nest in subsequent years. Therefore, the presence of raptor nests within the project area at any time during construction, whether active or inactive, will require consultation with the California Department of Fish and Game and U.S. Fish and Wildlife Service (Mitigation measure BIO-13).

Impacts to special-status birds are less than significant with mitigation.

BIO-10: Remove trees prior to nesting season – Trees that will be removed during construction will be topped (roots to remain in place) prior to the nesting season (January 15th) before construction to avoid or minimize the loss of individuals or active bird nests.

BIO-11: Install exclusion netting under bridge – Netting will be installed under W. Edith Avenue Bridge prior to the nesting season to prevent birds from nesting under the bridge. If netting is not completed by the start of nesting season, bird nest surveys will be conducted prior to netting.

BIO-12: Pre-construction surveys for nesting birds – Pre-construction surveys for active nest sites will be conducted by a qualified biologist no more than 14 days prior to tree removal and project construction.

BIO-13: Pre-construction surveys for raptor nests - Pre-construction surveys for raptor nests will be conducted no more than 14 days prior to tree removal and project construction to avoid loss of individuals or nest sites. The presence of active or inactive raptor nests within the project area at anytime during construction will require consultation with the California Department of Fish and Game and U.S. Fish and Wildlife Service prior to conducting work in the area. A protective buffer zone shall be erected and remain in place until appropriate protection measures are agreed upon through agency consultation.

BIO-14: Construction monitoring for active nests - A biologist shall be on site during tree removal operations. If active nests are present during construction and complete avoidance is not possible, appropriate non-disturbance buffers should be erected until nesting is complete.

Special-Status Mammals – Removal of large trees within the project area could result in the loss of roosting bats, if bats are present during construction. Bats were not observed during biological surveys nor were roosting bats identified beneath West Edith Avenue Bridge. If ~~In addition,~~ bats are roosting under W. Edith Avenue Bridge during construction they could be disturbed by construction activities. Alternate roosting sites are available in large, mature trees within the project area and in Edith Park. A pre-construction survey for roosting bats will be conducted no more than 14 days priors to tree removal and project construction. If active roosting sites are discovered within the project area, a bat specialist will be consulted to identify the appropriate protection measures. These could include installing alternative bat roosting facilities immediately adjacent to the project site (Mitigation measure BIO-15).

Removal of potential habitat (oak riparian forest) for the San Francisco dusky-footed woodrat could result in the loss of individuals, if woodrats are present. Pre-construction surveys for the San Francisco dusky-footed woodrat shall be conducted no more than 7 days prior to tree removal and project construction (Mitigation measure BIO-16).

Impacts to special-status mammals are less than significant with mitigation.

BIO-15: Pre-construction surveys for roosting bats - Pre-construction surveys for roosting bats shall be conducted no more than 14 days prior to tree removal and project construction to avoid loss of individuals or active roost sites. If species are present within the project area and avoidance is not possible, appropriate non-disturbance buffers should be erected until bats leave the roost at dusk, thereby minimizing impacts to these species. A bat specialist will be consulted to identify the appropriate protection measures.

BIO-16: Pre-construction surveys for San Francisco dusky-footed woodrat - Pre-construction surveys for San Francisco dusky-footed woodrat shall be conducted no more than 7 days prior to tree removal and project construction to avoid loss of individuals or active nest sites. If species are present within the project area and avoidance is not possible, the California Department of Fish and Game will be consulted prior to conducting work in the area. Exclusionary fencing shall be erected at a distance of 50 feet around the nest and remain in place until appropriate protection measures are agreed upon through agency consultation ~~appropriate non-disturbance buffers should be erected around the nest site by a qualified biologist~~.

Special-Status Amphibians – California red-legged frog has a very low potential to occur on site. If California red-legged frog adult, eggs, or larvae are present within the stream channel or adjacent upland habitat during construction it could result in a loss of individuals. Creation of aquatic habitat will provide potential aquatic dispersal and possibly breeding habitat for amphibian species. Freshwater marsh habitat would be available to special-status amphibians in two to three years; therefore direct impacts to California red-legged frog would be considered temporary (Sycamore Associates LLC, 2007a). Pre-construction surveys for California red-legged frog will be conducted no more than 7 days prior to tree removal and project construction to avoid loss of individuals (Mitigation measure BIO-17).

Impacts to special-status amphibians are less than significant with mitigation.

BIO-17: Pre-construction surveys for California red-legged frog – Pre-construction surveys for California red-legged frog will be conducted by a qualified biologist no more than 7 days prior to tree removal and project construction to avoid loss of individuals. If observed, a qualified biologist will relocate the frog(s) to an appropriate location upstream of the project site. Relocation will be consistent with applicable codes and permit conditions.

Special-Status Plants – Sensitive plants are presumed absent from the project area and impacts to these species are not anticipated with implementation of the Project (Sycamore Associates LLC, 2007a).

Impacts to special-status plants are less than significant.

Impacts to Waters of the United States

Table 6 summarizes direct impacts to jurisdictional waters as result of Project construction. The Project will impact a total of 0.33 acre of Waters of the U.S. This includes 0.28 acre of unvegetated waters (aquatic habitat) and 0.05 acre of jurisdictional wetland (freshwater marsh) (Sycamore Associates LLC, 2007a). Approximately 95 feet of unvegetated waters adjacent to property APN 175-11-062 will be filled (approximately 140 cubic yards) and the channel re-aligned and widened. The section to be filled consists of concrete block vertical walls and a concrete channel bottom. Additional impacts to Waters of the U.S would result from the placement of rock grade control structures, step pools, and rock slope protection in the channel (refer to Impacts to Waters of the State for detailed discussion). Temporary impacts would result from typical construction activities in the channel. Best Management Practices will be implemented to minimize impacts to the stream bottom from heavy equipment (Appendix D).

Waters of the U.S. will be restored or created as part of the Project resulting in a greater surface area of the creek channel after construction than the existing condition. Widening of the upstream section of the reach and removal of the hardscape creek bottom may result in colonization by freshwater marsh vegetation, resulting in more jurisdictional wetland than pre-construction conditions. As discussed previously, freshwater marsh is expected to re-colonize through natural recruitment on-site. Mitigation Measure BIO-9.1 will be implemented after construction to ensure freshwater wetland colonizes the site. Unvegetated aquatic habitat will be created through re-alignment and modification of the stream channel. The newly constructed Project will provide net benefits to the creek by removing existing hardscape bank structures and stream bottom, widening the creek channel, and planting appropriate vegetation.

Impacts to Waters of the U.S. are less than significant with mitigation.

Refer to Mitigation Measure BIO-9.1.

Impacts to Waters of the State

The Project will impact a total of 1.26 acres of Waters of the State (Sycamore Associates LLC, 2007a). Waters of the State includes all Waters of the U.S. Construction of the Project will require the removal of 6,366 square feet of hardscape from the channel bottom and bank slopes. Installation of the rock weirs and grade control structures will require the placement of 10,483 square feet of rock within the channel bottom. Installation of rock slope protection and the extension to the concrete wing wall will require the placement of 2,452 square feet of hardscape. The surface area of the creek channel will be greater after construction than the existing condition. Although the total area of hardscape proposed is greater than that which is being removed from the channel, this impact is considered less than significant because of the degraded condition of the existing channel as compared to the overall benefits and improvements to the creek and riparian corridor as a result of the Project.

Impacts to Waters of the State are less than significant.

Impacts to Ruderal Vegetation

The Project will result in the temporary disturbance of ruderal vegetation at the access locations and staging areas. Immediately following Project construction, access locations and staging areas will be hydroseeded with a native plant mix.

Impacts to ruderal vegetation are less than significant with mitigation.

BIO-18: Restore staging and access areas – The staging and access areas will be restored to their pre-construction condition and hydroseeded with a native plant mix immediately following construction.

Table 6: Construction-related Impacts of the Proposed Project to Jurisdictional Features

Jurisdictional Feature	Permanent/ Temporary	Area in Acres	Area in Square Feet	Distance in Linear Feet
Waters of the U.S.				
Unvegetated Waters of the U.S.	Permanent	0.11	4,797	431
	Temporary	0.17	7,451	613
Freshwater Marsh	Permanent	0.02	964	104
	Temporary	0.03	1,345	86
Total Impacts to Waters of the U.S.	**Permanent**	**0.13**	**5,761**	**535**
	Temporary	**0.20**	**8,796**	**699**
Waters of the State				
Top of Bank	Permanent	0.23	9,903	535
	Temporary	0.44	19,378	699
Native Riparian Canopy (Measured Outside Top of Bank)	Permanent	0.01	525	0
	Temporary	0.10	4,431	0
Non-Native Riparian Canopy (Measured Outside Top of Bank)	Permanent	0.05	1,995	0
	Temporary	0.39	17,192	0
Non-Native Riparian Canopy with Hardscape Understory (Measured Outside Top of Bank)	Permanent	0.00	0	0
	Temporary	0.03	1,106	0
Total Impacts to Waters of the State	**Permanent**	**0.29**	**12,423**	**535[6]**
	Temporary	**0.97**	**42,107**	**699[6]**

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[6] Linear feet are not provided for each habitat type under Waters of the State because the numbers are not additive. A linear measurement of State jurisdictional waters as a whole has been provided and area measurements for each habitat type that falls within that length.

Section 4 - Report Preparation

List of Preparers

The following people contributed to the preparation of this document:

Santa Clara Valley Water District
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Hagar Environmental Science

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John Hesler, Principal

Section 5 - References

California Code of Regulations, State CEQA Guidelines, 14 CCR 15000 et seq.

City of Los Altos. 2006. Municipal Code.

City of Los Altos. 2002. General Plan.

Gordon, Nancy D., Thomas A. McMahon, and Brian L. Finlayson. 1992. *Stream hydrology: An introduction for Ecologists.* New York: John Wiley and Sons.

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Ndah, Tony, P.E. Santa Clara Valley Water District. 2006. Personal communication.

Nyberg, Paul D., ed. 1992. *Los Altos: Portrait of a Community.* Select Books.

Pedro, Debbie. Senior Planner. Town of Los Altos Hills. 2007. Personal communication.

Santa Clara Valley Water District. May 1999. “Final Environmental Impact Report for the Adobe Creek Watershed Planning Study”, Santa Clara Valley Water District, May 1999. Adopted by the Board on June 15, 1999, Resolution 99-43.

Santa Clara Valley Water District. February, 2005. “Adobe Creek Reaches 5 & 6 Hydrology Report. Prepared by James Wang, Ph.D., P.E., Wendy Change, P.E., and Nahm Lee.

Sycamore Associates LLC. 2007a. “Biological Resources Report, Adobe Creek Upper Reach 5, Santa Clara Valley Water District, City of Los Altos and Town of Los Altos Hills, Santa Clara County, California.”

Sycamore Associates, LLC. 2007b. “Tree Survey and Preservation Plan, Adobe Creek Upper Reach 5, Santa Clara Valley Water District, City of Los Altos and Town of Los Altos Hills, Santa Clara County, California.”

Sycamore Associates, LLC. 2006. “Wetland Delineation and Preliminary Jurisdictional Determination of Adobe Creek Upper Reach 5, Santa Clara Valley Water District, City of Los Altos and Town of Los Altos Hills, Santa Clara County, California.”

Town of Los Altos Hills. 2003. Municipal Code.

Section 6 – Response to Comments Received on Draft Supplemental EIR

List of Agencies and Individual Who Received the Draft SEIR

Agencies

State Clearinghouse Office of Planning and Research – 15 copies
California Department of Fish and Game, Region 3 (Tami Schane, Environmental Scientist)
SF Bay Regional Water Quality Control Board, Region 2 (Paul Amato, Environmental Specialist)
CalTrans, Region 4 (José L. Olveda)
United States Army Corps of Engineers (Molly Martindale)
United States Environmental Protection Agency (Luisa Valiela)
Santa Clara County Clerk Recorder
Town of Los Altos Hills (Henry Louie, Director of Public Works)
City of Los Altos (James Porter, Director of Public Works)

Individuals

Susan Mandle, Adobe Creek Watershed Group (4 copies for distribution to creekside properties owners and Adobe Creek Watershed Group)
Richard Moll, Adobe Creek Watershed Group/Robinwood Pool Association
Libby Lucas, Adobe Creek Watershed Group, Los Altos resident

Copies of the Draft SEIR were made available during the public review period at the following locations:

Los Altos Library Reference Desk
Los Altos Library, Woodland Branch Reference Desk
Dr. Martin Luther King, Jr. Library Reference Desk (San Jose)
Santa Clara Valley Water District Headquarters and Great Oaks Offices (San Jose)
Santa Clara Valley Water District website (www.valleywater.org)
Adobe Creek Watershed Group website (www.lahopenspace.com)

List of Agencies and Individuals Commenting on the Draft SEIR

Agencies

California Department of Fish and Game, Region 3 (April 25, 2007)
SF Bay Regional Water Quality Control Board, Region 2 (April 17, 2007)

Individuals

Adobe Creek Watershed Group via Susan Mandle (April 23, 2007)
Richard Moll, Adobe Creek Watershed Group/Robinwood Pool Association (April 24, 2007)
Libby Lucas, Adobe Creek Watershed Group, Los Altos resident (May 2, 2007)

Public Hearing

Public hearing (April 26, 2007)

Responses to comments received on the Draft Supplemental EIR and Draft Engineer's Report

Comments received on the Draft Supplemental Environmental Impact Report and the Draft Engineer's Report are presented below and are followed by responses to those comments. The comments are organized by source of the comment and the date the comment was received. Copies of the actual letters or emails received are found in their entirety in Appendix L of the Final Supplemental EIR.

All deletions are shown with a ~~line through the text~~ and all new text is shown with underlining.

Agencies

A. Response to comments from the Department of Fish and Game, dated April 17, 2007.

Comment 1: Page 10: Figure 4. Figure 4 shows the current alignment of Upper Reach 5 of Adobe Creek and some of the design elements proposed as part of the project. However, Figure 4 does not show all of the design elements outlined in the bulleted list and described in the text on page 12. For example, Figure 4 shows the step-pools that will be placed downstream of the 6-foot drop structure, the concrete wing wall that will be replaced downstream of the West Edith Avenue Bridge on the Los Altos Hills creek side, the wing wall that will be extended downstream of the West Edith Avenue Bridge on the Los Altos creek side, and the portion of the channel that will be filled in and planted outside of the newly proposed channel alignment. However, Figure 4 does not show the placement of rip rap upstream of the West Edith Avenue Bridge, the excavation of a 15-foot wide low flow channel flanked on each side with an 8-foot bench, sediment removal beneath the West Edith Avenue Bridge, or modification of the Robleda storm drain outlet. DFG prefers that the SCVWD provide one figure illustrating all of the design elements, thus enabling the reader to obtain a comprehensive picture of what is being proposed in the project, without having to sift through pages of text to determine what is missing in the figure.

Figure 4 is also missing some of the information outlined in the bulleted list on page 13, such as the locations of erosion site 4 and channel bottom erosion. In addition, the stationing shown in Figure 4 does not coincide with all of the sites described in Table 1. For example, Table 1 describes erosion site 3 as occurring between stations 1+045 to 1+068, whereas on Figure 4, erosion site 3 appears to be located approximately between stations 1+065 to 1+080. However, erosion site 4 is described in Table 1 as occurring between stations 1+068 to 1+080. It is unclear as to whether erosion site 3 in Figure 4 is mislabeled and is actually erosion site 4, or whether the stationing described in Table 1 is incorrect.

Table 1 also describes the placement of rock 3 feet up the bank on the Los Altos Hills creek side, whereas this is not shown at all in Figure 4. Another example of incongruous information between Figure 4 and Table 1 is at the location of the 4-foot drop structure. Table 1 describes a 4-foot drop structure downstream of an existing weir, resulting in the need for step-pools between stations 1+056 to 1+095. However, Figure 4 indicates that toe protection will be placed in the area of the step-pools, approximately between stations 1+070 and 1+095.

Overall, DFG finds some of the information presented in Figure 4 and Table 1 to be conflicting. DFG recommends that the SCVWD review the presented information and make appropriate changes to Figure 4, Table 1, and the written text such that all elements are properly illustrated on one figure, with proper labels and correct stationing.

> Response 1: Figure 4 and Table 1 have been revised to include all design elements and remove inconsistencies.

Comment 2: Page 22: Figure 11. Figure 11, which shows the proposed staging areas for the project, does not contain assessor parcel numbers (APNs), which are referred to in the text on page 20 when describing the staging areas.

> Response 2: Assessor parcel numbers have been added to Figure 11.

Comment 3: Pages 27 and 28: Figures 12 and 13. Figures 12 and 13 show the extent of overland flow before and after project construction adjacent to the project site at 1,245 cubic feet per second (cfs) and at 2,400 cfs, respectively. According to the legend provided in the figures, water depth of overland flow is depicted by a scale of graduated color, from white (no water depth or very shallow water depth) to dark blue (greatest water depth). While the text on page 26 states that the depth of overland flow would be less after the project compared to existing conditions, Figures 12 and 13 appear to show the opposite trend. The shade of blue appears to be darker under the two flow scenarios (1,245 cfs and 2,400 cfs) in the figures projected after construction of the preferred alternative, as compared to the existing conditions. This suggests that there is greater overland flow predicted after construction relative to existing conditions. While it is understood that the project will not provide 1% flood conveyance capacity within the first 600 feet of Reach 5 downstream of the West Edith Avenue Bridge, one of the objectives of this project is to increase channel capacity of Reach 5. Therefore, it is expected that increased channel capacity would decrease the expected overland flows. Please explain this discrepancy relative to the two figures.

> Response 3: Figures 12 and 13 have been revised to focus on the extent of overland rather than depth, which is the intent of the figures.

Comment 4: Page 35: Table 5. Please explain why no numbers are provided for the distance in linear feet to impacted Waters of the State, and to provide the information if it is available.

> Response 4: Table 5 is a summary of Waters of the U.S. and Waters of the State. Impacts to jurisdictional waters are shown in Table 6. Distance in linear feet of Total Waters of the State has been added to Table 5 of the Final SEIR. Linear feet are not provided for each habitat type under Waters of the State because the numbers are not additive. A linear measurement of State jurisdictional waters as a whole has been provided and area measurements for each habitat type that falls within that length.

Comment 5: Page 44: Figure 17. Please verify in the legend that indicated with a red dot without an X means that they were recommended for removal by the certified arborist but that they are no slated for removal as result of this project.

> Response 5: Figure 17 has been revised to more accurately depict those trees which will be preserved and those that will be removed.

Comment 6: Pages 45-46: Mitigation measures for trees. DFG is pleased with the mitigation measures proposed to protect trees in the vicinity of the project. DFG urges the SCVWD to follow the recommendations provided by the arborist which are outlined in the EDAW report attached in Appendix G pertaining to the use of the dripline method and trunk diameter method to establish the tree protection zone. DFG agrees that whichever method results in greater protection to the existing trees should be utilized during construction of the project.

> Response 6: The text has been changed to read, "BIO-7: Tree Protection Zone - A tree protection zone will be established for all trees to be preserved and will be identified using either the dripline method or trunk diameter method, whichever is greater, as defined in the Tree Survey and Preservation Plan. The tree protection zone will be fenced prior to beginning of construction. No grading, construction, trenching, demolition, vegetation removal, or other work will be allowed in this area. No equipment, debris, or materials will be dumped or stored within the zone. Any work that needs to occur within the zone will be directly supervised by an ISA certified arborist. Any modifications to the tree protection zone must be approved and monitored by the certified arborist.

Comment 7: Page 47: Bird nesting. Owls may begin nesting as early as January. DFG recommends that any vegetation removal activities be complete by mid-January to ensure that impacts to nesting birds, including owls, are avoided.

> Response 7: Pre-construction vegetation removal activities will be completed by mid-January to avoid impacts to nesting bird, including owls. The following text has been added to page 48 of the Final SEIR, "Trees that will be removed during construction will be topped off prior to the nesting season by January 15th (Mitigation measure BIO-10)."
>
> The following text has been added to page 48 of the Final SEIR, "BIO-10: Remove trees prior to nesting season – Trees that will be removed during construction will be topped (roots to remain in place) prior to the nesting season (January 15th) before construction to avoid or minimize the loss of individuals or active bird nests."

Comment 8: Page 48: Bats roosting beneath West Edith Avenue Bridge. Please clarify whether any evidence of bat roosting (observations of individuals or signs of bat guano) has been observed beneath the West Edith Avenue Bridge. While the table titled "Wildlife Species Observed on the Project Site" in the Biological Resources Report attached in Appendix F does not indicate any observations of bat presence, the text on page 48 of the SEIR may be interpreted to imply that bats are present beneath the West Edith Avenue Bridge.

> Response 8: Bats were not observed during biological surveys, nor was evidence of roosting bats identified beneath West Edith Avenue Bridge. Bats have a very low to low potential of occurring on site. Text has been revised to read, "Removal of large trees within the project area could result in the loss of roosting bats, if bats are present during construction. Bats were not observed during biological surveys nor were roosting bats identified beneath West Edith Avenue Bridge. If bats are roosting under W. Edith Avenue Bridge during construction they could be disturbed by construction activities."

Comment 9: Page 48: San Francisco dusky-footed woodrat. Please describe in more detail the non-disturbance buffers that would be erected around any San Francisco dusky-footed woodrat nest sites that are observed in the project area. DFG discourages the removal and relocation of occupied dusk-footed woodrat nests, and requests verification that the SCVWD is not proposing this strategy.

Response 9: Mitigation Measure BIO-16 has been changed to read, "BIO-16: Pre-construction surveys for San Francisco dusky-footed woodrat - Pre-construction surveys for San Francisco dusky-footed woodrat shall be conducted no more than 7 days prior to tree removal and project construction to avoid loss of individuals or active nest sites. If species are present within the project area and avoidance is not possible, the California Department of Fish and Game will be consulted prior to conducting work in the area. Exclusionary fencing shall be erected at a distance of 50 feet around the nest site and remain in place until appropriate protection measures are agreed upon through agency consultation ~~appropriate non-disturbance buffers should be erected around the nest site by a qualified biologist~~.

On pages 32 and 33 of the Draft SEIR, the San Francisco dusky-footed woodrat was inaccurately described as a Federal Species of Concern. References to the Federal listing have been deleted from the Final SEIR.

Comment 10: Appendix D: Page 9: WQ-10. DFG requires that wet sacked concrete and poured concrete be excluded from the wetted channel for 30 days (not two weeks) unless treated with a sealant, in which case it must be excluded form the wetted channel until the sealant is dry.

Response 10: Best Management Practice WQ-10 has been changed from two weeks to 30 days for this project. This requirement will be included in the specifications for the construction contractor.

B. Response to comments from the SF Bay Regional Water Quality Control Board, dated April 25, 2007.

Comment 1: Page 3: Water Board staff concurs that the Project is an improvement over the original 1999 preferred alternative. Omitting gabions, reducing hardscape, and using geomorphic design principals are laudable accomplishments. However, while reducing the Project footprint by narrowing the Project width may be an improvement for creek-side residents; this is not necessarily an improvement for water quality or beneficial uses. Wider channel designs (Geomorphic Alternatives) previously provided to the Collaborative by the District could further reduce the amount of erosion and hardscape banks while increasing the riparian revegetation potential along the creek. This kind or design would be more consistent with the historical floodplain morphology described on page 9 of the ER. Water Board staff understand that wider channel alternatives were not feasible for the District because they were in conflict with property owner interests. For these reasons, Water Board staff does not consider this is a true restoration project so much as a flood protection project based on constrained geomorphic design principals, consistent with Project Objective 2 on Page 11.

Response 1: The Project is consistent with the District's definition of restoration which states, "Action taken by the District, to the extent practicable, toward the re-establishment of an ecosystem's pre-disturbance structure, function, and value, where it has been degraded, damaged, or otherwise destroyed."

Comment 2: Page 3: Water Board staff strongly support the collaborative process that the District has participated in since 2003 and encourage the District to assemble stakeholder groups for future flood protection projects.

Response 2: Comment noted.

Comment 3: Page 9: Please provide summary findings from the 2005 Phase 1 Hazardous Materials Assessment with the Project application for water quality certification.

> Response 3: The District will include a summary of the Phase 1 report with the water quality certification permit application.

Comment 4: Page 11: Water Board staff support Project Objective 11, to "protect, in perpetuity, the existing floodplain and overland flow paths". Please clarify the extent of floodplain and overland flow paths that are considered. Will the existing extent differ from the post-project extent?

> Response 4: Figures 12 and 13 have been revised to focus on the extent of overland rather than depth, which is the intent of the figures. The extent of overland flow will be less than the existing condition as shown in the figures.

Comment 5: Page 13: Page 13: Vegetation criterion has been used to identify trees of particular value and trees to be preserved if possible. While both native and non-native trees can provide water quality and beneficial uses, non-native invasive trees should be considered appropriate for removal if revegetating with native species will improve water quality and beneficial uses of Adobe Creek. Water Board staff are particularly concerned with the density of eucalyptus trees along some sections of Adobe Creek due to their ability to draw significant amounts of groundwater and reduce dry season flows in streams, as well as the production of allelopathic compounds that inhibit understory growth and negatively affect aquatic organisms.

> Response 5: The District will only be removing trees that are directly impacted by construction activities.

Comment 6: Page 17: Water Board staff recognizes the efforts of the District and creek-side residents to come to agreement on a less than one percent frequency flood protection project. As described in the DSEIR, flooding observations of long-time residents were used, along with the District's hydrologic modeling, to identify a level of flood protection that could be supported by those most affected.

> Response 6: Comment noted.

Comment 7: Page 20: Water Board staff recognizes and supports the use of stable reference reaches in the design of the bankfull channel cross-section. This approach should help improve sediment transport and channel stability.

> Response 7: Comment noted.

Comment 8: Pages 23-25: The ER states that Alternatives 2 – Geomorphic, 3 - Geomorphic with Step-pools, and 4 – Geomorphic with Cascading Step-pools were "not acceptable to the Collaborative" because they did "not meet the right of way criterion of the project because the channel top width exceeded the blue line limits at some locations along the channel". Water Board staff participated in the Collaborative for several meetings and provided written comments and emails related to the Project. None of the described alternatives were ever considered unacceptable to Water Board staff because the top width exceeded the blue lines set by creek-side residents. On the contrary, Water Board staff continually and consistently supported maximizing the top width because of reasons mentioned in comment number 1 of this letter. Please revise the Final ER to clarify this point. The chronology of alternatives development is appreciated.

> Response 8: The following statement has been added to the Final Engineer's Report (Final ER), descriptions of Alternatives 2 – Geomorphic, 3 – Geomorphic with Step-pools, and 4 – Geomorphic with Cascading Step-pools: "This alternative does not meet the right of way criterion of the project because the channel top width exceeds the blue line limits. Even though the channel top width for this alternative exceeds the blue line limits, regulatory agencies supported maximizing the top width of the channel because of improvements to the water quality and beneficial uses of the channel."

Comment 9: Page 37: For clarification, the concrete retaining walls were considered unacceptable to Water Board staff primarily due to habitat impacts to the stream channel and less due to visual and mitigation impacts as stated.

> Response 9: Statement revised in Final ER to read: "The rock riprap alternatives were acceptable to the Collaborative but the retaining wall alternatives were not acceptable to the Collaborative due to the habitat impacts to the stream channel, visual impacts, and mitigation impacts associated with the use of the retaining walls."

Comment 10: Page 38: Table 4-2 describes the location, description and erosion repair element at twelve locations downstream of the Robleda outfall. Seven locations describe the use of rock toes, rock bank, or rock invert to prevent erosion but no revegetation element is described. Revegetation at proposed erosion protection sites should be described in the Final Supplemental EIR (FSEIR). If vegetation is not proposed, the FSEIR should describe why. Water Board and District staff have continued to work together to reduce the amount of hardscape and increase native riparian vegetation at erosion repair sites in Santa Clara County streams. The Project should reflect this to the maximum extent practicable.

> Response 10: The Final SEIR and Final ER have been revised to reflect the planting of willow cuttings in the rock rip-rap slope protection sites. Willow plantings have been added to Figures 6 through 10 of the Final SEIR. The following text has been added to page 13 of the Final SEIR, "Willow cuttings would be installed in the rock rip rap bank and toe protection."
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> The following text has been added to Table 1 of the Final SEIR, "Willow cuttings would be installed at the toe of the rock rip rap."
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> The following text has been added to Page 20 of the Final SEIR, "Rock slope protection will be planted with willow cuttings."

Comment 11: Page 43: The description of the preferred alternative includes revegetation using "plant species which will provide both esthetic and habitat restoration." Water Board staff encourage the use of watershed specific native riparian and upland species for the revegetation component of the Project.

> Response 11: The District intends to use watershed specific native riparian and upland species when possible.

Comment 12: Page 44: The FSEIR and/or the future application for water quality certification should provide BMPs that will be implemented to prevent the Town of Los Altos Hills sewer line from being damaged and potentially leaking into the stream.

> Response 12: The water quality certification permit application and Storm Water Pollution Prevention Plan will describe protection of existing utilities during construction. Additionally, a BMP has been added to Appendix D of the Final SEIR.

Comment 13: Page 44: The future permit application for water quality certification should describe how nuisance water will be diverted from the construction site without degrading downstream water quality.

> Response 13: The water quality certification permit application and Stormwater Pollution Prevention Plan will describe nuisance water. Additionally, a BMP has been added to Appendix D of the Final SEIR.

Comment 14: Pages 3 and 4: The Summary of Environmental Impact mentions impacts to 0.05 acre of freshwater marsh and states that freshwater marsh will be recreated as part of the Project. Will the Project design include creation of freshwater marsh or is it assumed that this type of habitat will form without direct intervention? Due to the importance of this sensitive jurisdictional habitat, monitoring objectives should include measuring recruitment of new freshwater marsh and next steps if they do not develop.

> Response 14: It is expected that freshwater marsh habitat will naturally re-colonize the reach after construction as described on pages 46 and 49 of the Final SEIR. This includes the area impacted temporarily by construction activities (0.03 acre) and the widened section of the reach upstream of the Robleda storm drain. This impact has been changed to "less than significant with mitigation" in the Final SEIR and the following text and mitigation measure have been added, "To ensure that freshwater marsh vegetation does colonize the reach after construction, the site will be monitored annually for five years post-construction, or less if marsh habitat has been established. If freshwater marsh vegetation is not present within the project reach after the fifth year, the site will be seeded with seeds collected from Adobe Creek.
>
> Impacts to freshwater marsh are less than significant with mitigation.
>
> BIO-9.1: Monitor freshwater marsh – The project reach will be monitored by a qualified biologist annually for five years, or less if vegetation is established, after the completion of construction to determine if freshwater marsh is re-colonizing the site. If, after five years, freshwater marsh vegetation does not exist within the project reach, the site will be seeded with seeds collected from Adobe Creek freshwater marsh plant species."

Comment 15: Page 4: Please define "appropriate vegetation."

> Response 15: The District will use watershed specific native riparian and upland species as much as possible. The following change was made to the text on page 4 of the Final SEIR, "...and planting ~~appropriate vegetation~~ watershed specific native riparian and upland plant species, when possible."

Comment 16: Page 12: Please describe the purpose of the rock rip rap that is proposed in the channel bed upstream of West Edith Avenue Bridge. Is this intended to provide grade control for the Project? If so why is this needed in addition to the weir at the downstream face of the Bridge shown on sheet C-3 of the DER?

> Response 16: Rock rip-rap is proposed along the channel bottom upstream of West Edith Avenue Bridge due to higher flow velocities in the channel as a result of the slope between the top of the existing sanitary sewer line and the proposed channel invert at the downstream face of the bridge. Sheet C-3 of the Final ER has been revised to remove the weir at the downstream face of the bridge.

Comment 17: Page 18: Table 2 summarizes the amount of hardscape to be removed and new hardscape proposed. The net increase of hardscape would be approximately 6,599 square feet, primarily due to construction of step-pools in the channel bottom but also from bank protection and wingwall construction. While the Project may provide improvements to channel stability, wildlife habitat and migration, and water quality, it is still a substantial increase in hardened channel bed and banks. The District's mitigation and monitoring plan should be designed to measure indices that demonstrate whether the reconstructed channel does in fact adequately compensate for permanent and temporal impacts of construction and project performance. The plan should also include a process to identify future compensatory mitigation in the event the reconstructed channel does not adequately improve pre-project conditions.

> Response 17: The Mitigation Monitoring Plan will describe in detail the monitoring methods and success criteria that will be followed to measure the performance of mitigation plantings within the project area as described in Mitigation Measures BIO-1 and BIO-2. The completed Mitigation Monitoring Plan will be submitted with resource agency permit applications.
>
> Additional monitoring will be conducted post-construction and annually for five years thereafter to assess the performance of the re-designed channel after each rainy season. A monitoring plan for performance monitoring will be submitted with resource agency permit applications.

Comment 18: Page 20: Maintenance activities that require access to the creek would involve construction of a temporary access ramp downstream of West Edith Avenue Bridge. Would access at this location disturb revegetation associated with the Project? If so, it may be more appropriate to plant this area with disturbance tolerant species only.

> Response 18: The likely location of a temporary access ramp would be over the concrete wing wall on the Los Altos Hills side downstream of West Edith Avenue Bridge. Plantings above the wing wall would include disturbance tolerant species.

Comment 19: Page 41: The DSEIR states that "the overall goal of restoration will be to compensate for the loss of mature trees by creating a natural riparian corridor of diverse plant species and varying canopy heights" and that trees will include "evergreen" species. It goes on to state that "the majority of trees will be native species…" Water Board staff strongly support the overall goal but request additional information regarding the use of nonnative and evergreen trees. Based on previous discussions with District staff, and the conceptual revegetation plan illustrated in Figure 16, it appears that several redwood trees may be proposed, especially along the Los Altos Hills side of the channel. While some redwood may not be inappropriate, given that they are likely native to the upper watershed, page 29 of the DSEIR lists them as a landscape tree under the "Non-native Riparian" heading. The revegetation plan should clarify non-native species, where and how much will be planted, and why they are appropriate. Water Board staff recommends the use of location specific native vegetation for mitigation or restoration project planting plans.

> Response 19: The revegetation plan will specify which trees are non-native and how many will be planted. Redwoods will be planted at the request of the property owners and Adobe Creek Watershed Group to provide consistency with the surroundings and the existing condition as well as provide visual screening between properties. Redwoods will be limited in number and will be planted in clusters. These clusters will not be included in the total mitigation area. It is anticipated that three clusters of redwoods to include an average of 5 redwoods per cluster would be planted. This would reduce the total mitigation area to 0.76 acre. The Final Supplemental EIR has been revised throughout to account for the change in available planting area.

Comment 20: Page 42: Impacts to trees include removal of 64 trees in the Project footprint. The DSEIR mentions that removal will have an impact on aquatic habitat due to the loss of root wads along the channel bank. The District should consider integrating root wads from removed trees into bank protection components of the Project. This method has been successfully used by the District and many other project proponents.

> Response 20: The District will consider incorporating root wads into the design of the bank protection components of the project.

Comment 21: Water Board staff NOP comment number 4 requests a description of "stream bed fill material" and suggests that gravels and cobbles be used whenever possible to improve aquatic habitat. Please provide this information in the FSEIR and the Project application for water quality certification.

> Response 21: Page 12 of the Draft SEIR and page 11 of the Final SEIR includes a description of stream bed fill material.

Comment 22: Water Board staff NOP comment number 6 suggests the updated Mitigation Monitoring Report be provided with the DSEIR. This information has not been provided, presumably because it is still under development. Please provide this information for Water Board staff review with the FSEIR and Project application for water quality certification.

> Response 22: A complete Mitigation Monitoring and Reporting Program (MMRP) including all mitigation measures pertaining to Reach 5 from the 1999 FEIR and Final SEIR is included in Appendix K of the Final SEIR.

Individuals

A. Response to comments from the Adobe Creek Watershed Group, dated April 23, 2007.

Comment 1: Page 2, 3rd paragraph. Please add to last sentence: "...in the initial flood plain portion, increasing to the 100 year capacity as the channel deepens as it exits the flood plain."

> Response 1: The proposed text has been added to the Final SEIR.

Comment 2: Page 5, Project Location. Please change start of second sentence to: "The portion of Adobe Creek in this project..."

Response 2: The text has been changed in the Final SEIR.

Comment 3: Page 5, Development of Revised Project. Please change start of first sentence to: "At the suggestion of, and under the leadership of the District, a...."

Response 3: The text has been changed in the Final SEIR.

Comment 4: Page 6, Figure 1. Please consider using same figure from NOP for identification of project location.

Response 4: Figure 1 has been replaced.

Comment 5: Page 13, Channel Bottom 1st paragraph 3rd and 5th sentences. Please replace "Rock rip-rap..." with "Step-pools..."

Response 5: The 3rd sentence has been changed to read, "Rock rip rap step pools will be placed along the channel bottom between stations ~~1+070 to 1+097~~ 1+056 to 1+095 to eliminate an existing 4 foot drop structure and improve fish passage."

The 5th sentence has been changed to read, "The step pools ~~Rock rip-rap protection~~ would be tied into the existing slope protection."

Comment 6: Page 20, Spoil Management. What about trucks coming in?

Response 6: The text has been changed to read, "The Project will generate ~~about~~ approximately 750 truck trips to haul excavated soil material, concrete, and rubble from the site and to deliver equipment and materials to the site. A truck trip is considered one round trip.

"~~Disposal~~ Transport of excavated material from the site and equipment and material deliveries to the site would occur between ~~June~~ April and October 2008, with an average of about ~~16~~ 7 truck trips per day.

Comment 7: Page 22, Figure 11. Please consider expanding the staging areas to any available space.

Response 7: The District is pursuing expanding the staging area to allow parking of contractor and District vehicles on University Avenue. The District is pursuing this option with the City of Los Altos and the residents who live on University Avenue. The following text has been added to page 20 of the Final SEIR, "Parking of contractor and District employee vehicles would occur on University Avenue, pending approval from the City of Los Altos and the residents located on University Avenue." Additional staging area may be available at property 175-25-066. To account for this potential area, the following text has been revised in the Final SEIR, "The potential staging areas for construction would be on the ~~property~~ properties APN 175-25-067 and 175-25-066 and upstream of W. Edith Avenue, in a portion of Edith Park (Figure 11)."

"All potential access and staging areas on private property are subject to final approval from the property owner."

Comment 8: Page 24, 1st paragraph. Please change "ephemeral" to "intermittent".

Response 8: The text has been changed to read, "Adobe Creek is an ~~ephemeral~~ intermittent stream that drains and area of 10.8 square miles." A definition of intermittent has been added as a footnote on page 24 of the Final SEIR and reads, "Intermittent streams are those which flow for only certain times of the year, when they receive water from springs or runoff. During dry years there may be an absence of flow, or a series of separate pools may be present (Gordon, McMahon, and Finlayson 1992)."

Comment 9: Page 29. Please define "ruderal".

Response 9: A definition of ruderal has been added as a footnote to page 29 of the Final SEIR and reads, "A ruderal species is a weedy plant species that grows on compacted, plowed, or otherwise disturbed ground and shows a preference for this type of habitat."

Comment 10: Page 44, Figure 17, Tree Removal. This figure needs help to correlate to prior plans and to Draft ER: color scheme not defined, and number listings need larger type, especially when the removal "X" obscures the tree identification number (or perhaps adding a duplicate number off to the side of the symbol).

Also, Trees 281 & 282 at Robinwood Pool Pump House are not shown on this figure (one is a 6' stump on top -of -bank fence line, other is a lower stump next to pump house). These tree stumps might have to be removed to insure quality project in terms of best construction practices for bank erosion correction elements near Remmel/Robinwood Pool property line.

Response 10: Figure 17 has been replaced with a new figure.

It will not be necessary to remove the stumps (trees 281 and 282) to construct the bank erosion repairs near the Remmel/Robinwood Pool property line. Since the only trees that are being removed are those directly impacted by construction, the stumps will remain in place.

Comment 11: Page 12, Second paragraph to last. Please change to: "The creek channel improvements would widen the existing channel to 40 feet and up to as much as 50 feet by Robleda storm drain."

Response 11: The text has been changed to read, "The creek channel improvements would widen the existing channel to 40 feet ~~to 50 feet~~ and up to as much as 50 feet by the Robleda storm drain."

Comment 12: Page 20, Spoil Management. Please review the construction phase in order to meet the project schedule deadline. For example, 16 trucks/day will take four months which represents the entire duration of the project.

Please minimize noise and dust as much as possible using an appropriate fence.

Response 12: The text has been changed to read, "The Project will generate ~~about~~ approximately 750 truck trips to haul excavated soil material, concrete, and rubble from the site and to deliver equipment and materials to the site. A truck trip is considered one truck's round trip.

"~~Disposal~~ Transport of excavated material from the site and equipment and material deliveries to the site would occur between ~~June~~ April and October 2008, with an average of about 7 truck trips per day.

A temporary chain link fence covered with solid fabric will be placed along properties 175-25-068, 175-25-067, and 175-25-066 to separate these properties from the construction area. The exact location of the fence will be described in the Temporary Construction Easements.

Comment 13: Page 20, Access and Staging. Swale may not be an appropriate safe access for heavy trucks due to the presence of underground water line, electrical line and gas line, and close proximity to the pool and oak tree drip line.

All project sites to be restored to owners' satisfaction by no later than end of 2008.

Response 13: Use of the swale will depend on the available width and status of existing utilities within the area and is pending approval of the property owner.

The specifics of when sites will be restored on private property will be addressed in the Temporary Construction Easements between the District and property owner.

Comment 14: Page 39. Please uphold Los Altos Hills tree replacement policy and restore the existing screening provided by the mature trees that are so valuable to all the neighbors.

Response 14: As stated on page 41 of the Final SEIR, the District will restore 0.76 acres of riparian habitat to include planting larger, more mature trees on properties 175-25-068, 175-25-067, and 175-25-066. Approximately 0.20 acre of redwood trees will be planted within the planting area.

Comment 15: Page 41, BIO-1. Planting area (.96 acre) should be identified as the creek bank starting from bankfull, then up to the top of bank and beyond.

Didn't see any mention of the x2 palm trees to be transplanted.

Response 15: The following text has been added, "The majority of the planting area will occur on the Los Altos Hills side of the creek and includes the creek bank starting from bankfull to top of bank and a 20-foot wide planting area extending from the top of the bank.

Additional text has been added to read, "Two Canary Island date palm (*Phoenix canariensis*) trees that are being removed as part of project construction will be transplanted on the same property from which they were removed. These trees will be transplanted outside of the mitigation area and project boundary."

Comment 16: Page 6, Figure 1. This colored map of Adobe Watershed is inconsistent with historic SCVWD depiction of Adobe Creek watershed, and with that presented in the Engineer's Report. Staff mentioned that it was SCVWD designated Lower Peninsula watershed. This needs title correction and/or Adobe Creek watershed shaded in separately.

Response 16: Figure 1 has been replaced.

Comment 17: In the Engineer's Report, (Figures 3-3, 3-4, 3-5, and 3-6), in describing Upper Reach 5 overland flows, the scope of this flood control project is expanded into Reach 6. This is not fully substantiated by any further documentation on environmental or channel conditions in Reach 6. I find this is a deficiency. If no actual construction or modification is to be proposed in Reach 6 then this report needs to reference original 1996-99 Engineer's Report and EIR recommendations for Reach 6 as found on page 5-35 and 7-32, "The proposed measure is to pursue a new maintenance program." Specifics of such a maintenance program should be outlined in these documents.

Response 17: The District conducts stream maintenance under the Multi-Year Stream Maintenance Program. Maintenance for reach 6 is limited to areas where the District has an easement or to an emergency situation and is conducted on an as-needed basis.

Comment 18: Please specify that 'weeding' of restored vegetation in Adobe Creek riparian corridor not entail the use of herbicides.

Response 18: Weeding activities will not include the use of herbicides unless noxious weeds begin to establish within the mitigation area, in which case herbicides would be used sparingly.

Comment 19: Please clarify the linear feet of rock rip-rap that is to be laid in channel, and the percentage of channel that will no longer have percolation potential. Will low spots and step pools have the reinforced rock rip-rap base and therefore offer no capability of percolation?

Response 19: The channel will be lined with rock rip-rap between all step pools. The rock rip-rap will allow percolation along the entire length of the channel. There will be no reinforced rip-rap on the project.

Comment 20: Consider the degree to which this geomorphic design needs to predominantly incorporate natural elements.

Response 20: The District is incorporating natural elements to project design where applicable while considering the constraints imposed by the adjacent property owners.

Comment 21: The widened low flow channel will increase temperatures of low flows and increase level of evaporation.

Response 21: Although the channel will be widened as part of the project, the project elements include planting of mature vegetation along the channel which should keep the temperature and evaporation levels relatively the same.

Comment 22: It can never be emphasized enough that this project location is the park entrance to Los Altos Hills, and that Edith Park is the only neighborhood flatland park for this part of Los Altos Hills. This route, especially the path from Robleda to the bridge, is without sidewalks, is used by school children as well as local residents jogging and out walking the dog, and should not be obstructed during construction.

Response 22: The project will limit deliveries to and from the site to non-commute hours. As stated in Best Management Practice TR-1 in Appendix D of the Final SEIR, public safety measures will be employed at the project site. This could include fences, barriers, lights, flagging, guards, and signs. Construction fencing or equivalent would be installed on both sides adjacent to the pathway that runs through the park. A flag person(s) will be on-site to direct traffic and pedestrians at Edith Park.

Comment 23: Adobe Creek was called a perennial creek by Soil Conservation Service expert Hal Campy in 1983-84.

Response 23: A perennial creek is defined as a creek that has flow present year-round. Although Adobe Creek historically flowed year-round (until the early 1900s), the District currently defines Adobe Creek as an intermittent stream as defined on page 24 of the Final SEIR. A footnote has been added to page 24 of the Final SEIR that describes Adobe Creek as historically a perennial creek.

Comment 24: Protective fencing should be erected to prevent parking of construction equipment, changes in soil level, and removal or addition of vegetation within the drip line of the heritage oaks and other important trees identified by the following tree numbers: 214, 227, 273, 294, 300, 310, 317, 575, 608, 613, 628 (can't find location on map).

Response 24: Mitigation measures BIO-7, BIO-8, and BIO-9 will be implemented to protect trees during construction. In response to Department of Fish and Game comment number 6 above, BIO-7 has been revised to read, "BIO-7: Tree Protection Zone - A tree protection zone will be established for all trees to be preserved and will be identified using either the dripline method or trunk diameter method, whichever is greater, as defined in the Tree Survey and Preservation Plan. The tree protection zone will be fenced prior to beginning of construction. No grading, construction, trenching, demolition, vegetation removal, or other work will be allowed in this area. No equipment, debris, or materials will be dumped or stored within the zone. Any work that needs to occur within the zone will be directly supervised by an ISA certified arborist. Any modifications to the tree protection zone must be approved and monitored by the certified arborist.

Comment 25: Page 44, Figure 17. Please improve the legend to clarify that trees identified by red circles without X's will not be removed.

Response 25: Figure 17 has been replaced with a new figure.

Comment 26: The following trees, identified by tree numbers with survey numbers in parentheses, appear in the 2002 tree survey, but are not shown in Figure 17. Some were larger than 6 inches in diameter at breast height. Why are they not shown now, and what will happen to them?

124 (6089)	Shown on Draft ER Sheet D1
125 (6090)	Shown on Draft ER Sheet D1
175 (6258)	
42 (6256)	
45 (6241)	
41 (6260)	
141 (6112)	
140 (6125)	

71 (6464)	
67 (6465)	
68 (6466)	
69 (6467)	

Response 26: The District's consultant completed a tree survey in 2005, which included all trees surveyed in the 2002 tree report. The current survey is considered complete and accurate and is intended to replace any previous surveys. District staff reviewed the list of trees provided in the comment above and attempted to locate them in the field. Staff observed that the trees listed above are either less than 6 inch diameter at breast height (dbh), dead, or could not be located. Some of the trees that are less than 6 inch dbh will remain and others will be removed, depending on their location.

Comment 27: Appendix G, Tree Survey and Presentation Plan, Appendix D, Proposed Action for Each Tree. Note that trees in 550's range are attributed to Moos when they should be Rogez's, and channel oxbow trees No. 515 to 521 said in Appendix D (P.D-4) to be owned by Astiz actually belong to Theis.

Response 27: The table in Appendix I of the Final SEIR has been changed to reflect the correct owners of the trees. The table in Appendix D of the Tree Survey and Presentation Plan has not been changed because it is a final document.

Comment 28: Appendix G, Pages 11 and 12, Table 4, Tree Species…not Permitted…
Prunus ilicifolia, hollyleaf cherry, is native to Adobe Creek and should not be on this list of plants prohibited by SCVWD. It is excellent habitat and should be available for the revegetation of Adobe Creek Reach 5.

Response 28: The District's prohibited plant list includes "*Prunus spp*". According to Linda Spahr, District Botanist, Hollyleaf cherry, *Prunus ilicifolia*, is not on the District's prohibited plant list, is native to the Adobe watershed, and is a good habitat component in the dry, hilly upland areas of the watershed. When seed migrates out of the hills into the flatland part of the creek (via animals and birds that eat the fruit), it can become an aggressive, opportunistic, evergreen, woody weed that chokes the narrow riparian corridor and prevents the obligate (often deciduous) riparian species from occupying their rightful niche. Therefore, it can be used, but very sparingly and with caution, far from the stream, if at all.

Comment 29: Whenever possible, we prefer revegetation within the stream banks to consist of plants currently growing in the Adobe Creek watershed as shown in green on the ACWG Reach 5 Plant List dated 2007-01-06.

Response 29: Comment noted.

Comment 30: Page 28, Figure 13, Extent of Overland flow at 2400 cfs. This figure appears to show the preferred alternative increasing the extent and depth of overland flow in Reaches 5 and 6 when compared with the existing conditions.

Response 30: Figures 12 and 13 have been revised to focus on the extent of overland, which is the intent of the figures.

Comment 31: Page 20, Access and Staging. Please use vacuum mechanical sweepers to remove mud and/or dirt from all routes used during construction, including Edith Ave, Fremont Road, and Seven Acres Lane.

> Response 31: The text has been revised to read, "The contractor will use water trucks to control dust and vacuum mechanical sweepers to remove mud and/or dirt from W. Edith Avenue, Fremont Road, Seven Acres Lane, and other roadways as needed.

Comment 32: What is the renewed maintenance schedule for reach 6?

> Response 32: The District conducts stream maintenance under the Multi-Year Stream Maintenance Program. Maintenance for reach 6 is limited to areas where the District has an easement or to an emergency situation and is conducted on an as-needed basis.

Comment 33: A reminder that this area is the main entrance to our town. It is very important to preserve the current green vistas representing the town environmental heritage.

> Response 33: Comment noted.

B. Response to comments from Richard Moll, dated April 23, 2007.

Comment 1: Please consider adding a reference to the Website that is available with additional information for the Adobe Creek Reach 5 Project. Perhaps in Section 2 – Description of the Proposed Project, on Page 9, just before Project Objectives, might be a good place to add a new subheading:

Project Website

A Website has been established for the Adobe Creek Upper Reach 5 Project for informational purposes at http://www.lahopenspace.com/Adobe5 . Among other things, this website contains a description of the project, photos of the creek, photos of a model of a portion of the creek bank, minutes of the meetings, schedules, residents' inputs, District reports, and essentially documents the history of the development of the project. It also contains the Draft Supplemental EIR (SEIR) and the Draft Engineer's Report (ER), and the current matrix of concerns. This website is maintained by the Adobe Creek Watershed Group (ACWG) webmaster.

> Response 1: The following text has been added to Page 9 the Final SEIR, "The ACWG established a website for the Project for informational purposes at http://www.lahopenspace.com/Adobe5. This website contains a description of the project, photographs, minutes of Collaborative meetings, schedules, residents' inputs, District reports, and documents the history of the development of the project."

Comment 2: Perhaps it would be worthwhile to add a similar paragraph in the Engineer's Report.

> Response 2: The same paragraph has been added to Page 4 the Final Engineer's Report.

C. Response to comments from Libby Lucas, dated May 2, 2007.

Comment 1: As a last hurrah comment on tree removal in Adobe Creek Upper Reach 5 I would like to point out that there are, I believe, some 56 trees slated to be removed from the channel, (as mentioned in 2002 demolition plan), whose survey numbers are not listed in present 2007 removal lists. They may be negligible trees in species and/or size, but do contribute to shade and aesthetic and traffic noise screening of overall riparian canopy.

The survey numbers are 6089 -6090 - 6091 - 6092 - 6094 - 6095 - 6098 - 6099 - 6100 - 6102 (2nd eucalyptus) - 6105 - 6106 - 6107 - 6112 - 6113 - 6114 - 6115 - 6116 - 6121 - 6122 - 6125 – 6126 - 6127 - 6132 - 6133 - 6160 - 6171 - 6175 - 6176 - 6177 - 6181 - 6182 - 6187 - 6193 - 6194 - 6205 - 6206 - 6207 - 6208 - 6209 - 6210 - 6211 - 6241 - 6249 - 6256 - 6258 - 6260 - 6282 - 6254 - 6380 - 6453 - 6455 - 6464 - 6465 - 6466 and 6467.
This then augments tree removal numbers from 64 to 120? Can see that some of small trees might have been counted as negligible but large eucalyptus are habitat/refugia all the same.

On 2007 DSEIR list you have 23 trees noted that do not have survey numbers, including three heritage trees, but they do not overlap this earlier demolition plan list?

> Response 1: The District's consultant completed a tree survey in 2005, which included all trees surveyed in the 2002 tree report. The current survey is considered complete and accurate and is intended to replace any previous surveys. District staff reviewed the list of trees provided in the comment above and attempted to locate them in the field. Staff observed that the trees listed above are either less than 6 inch diameter at breast height (dbh), dead, or could not be located. Some of the trees that are less than 6 inch dbh will remain and others will be removed, depending on their location.

Comment 2: My second concern is the extensive excavation of Los Altos Hills bank of Adobe Creek. It seems wasteful of a resource of rich and site specific appropriate riparian soils to have them carted off and lost to creek. As these soils retain vegetation seed banks and nutrients that are needed to restore this riparian corridor and to stabilize stream, can there not be some arrangement made to stockpile and conserve top 7 or 8 feet of soil? A comparable riparian site on Los Trancos Creek has intriguing number of plants rebounding on their own, such as native blackberry, coast and valley oaks, willows, rushes, Snowberry, Wild Cucumber and varieties of sage. The soil is right for natives appropriate for this location of Adobe Creek (best if not amended), the drainage is good and under optimum natural conditions there will be supportive perennial stream flows.

> Response 2: Page 20 of the Final SEIR states, "Soil will be reused on site whenever possible and fill will be imported only when necessary." A soil analysis conducted in April and May 2007 will be used to determine if the soil is appropriate for the species to be planted and if soil amendments are necessary.

Comment 3: A third concern continues to be that staging area impacts be more precisely addressed and conditions be incorporated in engineer's report (that will be adhered to by contractors) to ensure that existing landscape plantings be preserved. Oaks especially need protection for entire drip line understory, and some protective surface needs to be laid down to avoid soil compaction on parkland and private property by heavy equipment.

> Response 3: The wetland delineation characterizes the two staging areas as ruderal landscape/hardscape. It is not anticipated that heavy equipment will utilize Edith Park

during construction. Private property will be restored to its original condition following construction, including loosening soil that may have been compacted during construction. Mitigation measure BIO-18 has been revised to read, "The staging and access areas will be restored to their pre-construction condition and hydroseeded with a native plant mix immediately following construction." Mitigation measures BIO-7, BIO-8, and BIO-9 will be implemented to protect trees during construction, including trees in access and staging areas. All mitigation measures will be included in the contractor's specifications for the Project.

Comment 4: Lastly, after Adobe Creek Project Public Hearing last Thursday evening, I worried that inclusion of Reach 6 in Engineer's Report Hydrology Attachment A, as background watershed review of overland flows, might be construed as sufficient engineering evaluation of Reach 6 channel to permit the replacement of Burke Bridge. A disclaimer that such a project requires a full environmental assessment of Reach 6 would be appreciated.

Response 4: Reach 6 and the replacement of Burke Road Bridge were assessed in the 1999 Adobe Creek Watershed Planning Study- El Camino Real to Upstream of Moody Road – consisting of the Engineer's Report and Final Environmental Impact Report, which was certified by the District Board of Directors in October 1999. The status of the Burke Road Bridge replacement was discussed at a March 8, 2006 meeting between the District and Adobe Creek Watershed Group. Subsequent to that meeting, on June 15, 2006 and January 16, 2007, the District sent two letters to the ACWG regarding Burke Road Bridge.

Public Hearing

A. Response to comments, Public Hearing, dated April 26, 2007

Paul Amato, SF Bay Regional Water Quality Control Board

Comment: Mr. Paul Amato confirmed that representatives of the U.S. Army Corps of Engineers and U.S. Environmental Protection Agency had authorized him to express their support for the project. He commended staff for their collaborative approach to working with the Los Altos community; and encouraged the Board to continue using collaborative processes in future projects.

Response: Comment noted, thank you.

David Bowers, Adobe Creek Watershed Group

Comment: Mr. David Bowers expressed his appreciation to the Board and his support for the project; and suggested that the Burke Road Bridge be retrofitted to support the area's development.

Response: Comment noted, thank you.

Richard Moll, Adobe Creek Watershed Group Steering Committee

Comment: Mr. Richard Moll expressed support for the project and said that residents were eager to see it proceed.

Response: Comment noted, thank you.

Jitze Couperus, Adobe Creek Watershed Group Project Facilitator

Comment: Mr. Jitze Couperus said that the absence of many Los Altos home owners from tonight's public hearing should not be misconstrued as a lack of support for the project; and commended staff for their collaborative community process.

Response: Comment noted, thank you.

Burt Vincent, Los Altos resident

Comment: Mr. Burt Vincent requested information on the projected likelihood of flooding in the area of Fremont and Edith Avenues.

Response: Mr. Hosseini explained that although community supported a less than one-percent flood protection project for Upper Reach 5 and no project in Reach 6, flood waters in the vicinity of Fremont and West Edith Avenues would rescind more quickly as a result of the Upper Reach 5 project.

Director Zlotnick clarified for the record that the project purpose was erosion control and environmental enhancement only, and that no flood control benefit was promised. He said that residents would continue to pay flood insurance, and should be aware that flooding may make the area of Edith and Fremont Avenues impassible for short periods of time.

Celia Norman, San Jose resident

Comment: Ms. Celia Norman submitted the following comments for the record: "I came to learn more about the collaborative effort in this neighborhood. I was impressed with the results. I am requesting that this collaborative effort be used with the Berryessa Creek Flood Control Project, where the relation between District staff and its neighbors is still adversarial. Please respond in writing."

Response: The Berryessa Creek Flood Control Project is outside the scope of the Adobe Creek Upper Reach 5 Restoration Project. This comment has been forwarded to the District's Coyote Watershed Program Support Unit.

List of Appendices

A. Notice of Preparation

B. Comments Received on Notice of Preparation

C. Comparative Matrix of 1999 Project to 2006 proposed Project

D. Best Management Practices

E. Biological Resources Mitigation Measures

F. Biological Resources Report

G. Tree Survey and Preservation Plan

H. Wetland Delineation and Preliminary Jurisdictional Determination

I. Tree Removal List

J. Email from Town of Los Altos Hills Regarding Heritage Oak

K. Mitigation Monitoring and Reporting Program (1999 FEIR and Final SEIR)

L. Comment Letters Received on Draft Supplemental EIR

M. District Board of Directors' Resolution and Findings of Fact on Final Supplemental EIR

APPENDIX A

Notice of Preparation

NOTICE OF PREPARATION

From: Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

Subject: **Notice of Preparation of a Draft Supplemental Environmental Impact Report**

Project Title: Adobe Creek Upper Reach 5 Project

Project Location: Los Altos Hills and Los Altos, Santa Clara County, California

The Santa Clara Valley Water District will be the Lead Agency and will prepare a **supplemental** environmental impact report for the above project. The document will supplement the Final Environmental Impact Report (Final Environmental Impact Report for the Adobe Creek Watershed Planning Study, May 1999) prepared by the Santa Clara Valley Water District. The District needs to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR (as revised by the supplement) prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but **not later than 30 days after receipt of this notice**. Please include the name of a contact person in your agency.

Please send your response to:

Kristen O'Kane
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118
(408) 265-2607 X2692
kokane@valleywater.org

Stanley Williams
Chief Executive Officer

11/29/06
Date

NOTICE OF PREPARATION
Supplemental Environmental Impact Report
Adobe Creek Upper Reach 5 Project
Los Altos and Los Altos Hills, California

Introduction

In October 1999, the Santa Clara Valley Water District (District) Board of Directors certified the May 1999 Final Environmental Impact Report (1999 FEIR) for improvements to Adobe Creek.[1] The project area included 16 reaches from El Camino Real to Moody Road. The original 1999 design for Reach 5 has since been modified. The Lead Agency will prepare a supplement to the Final Environmental Impact Report for the Adobe Creek Watershed Planning Study to address potential environmental impacts associated with changes to the project description, footprint, and objectives of Reach 5 improvements.

The proposed project is located in the City of Los Altos and Town of Los Altos Hills and extends 1,100 feet downstream of West Edith Avenue. The project proposes a natural geomorphic design with a limited channel top width for the first 500 feet and a geomorphic design with step pools for the following 200 feet. Bank stabilization and erosion repairs would be constructed in the remaining 400 feet downstream. The proposed project as constructed would be designed to convey approximately the 10% flood event for the first 600 lineal feet of Reach 5. The remaining 500 feet would convey the 1% flood event.

Need for Environmental Review

The District as the Lead Agency under CEQA has determined that a Supplemental Environmental Impact Report (SEIR) will be prepared to evaluate potentially significant adverse environmental effects of the revised Reach 5 project on hydrology and biological resources. A supplement to an EIR is given the same notice and public review as is given to a draft EIR and may be circulated by itself without recirculating the previous draft or final EIR.

Document Scope

The SEIR will include only that information necessary to make the previous 1999 FEIR adequate for the revised project. The SEIR will describe and evaluate potential effects of the proposed project on hydrology and biological resources and propose appropriate mitigation measures, if necessary, to reduce impacts.

Proposed Scoping Process

- This Notice of Preparation (NOP) initiates the CEQA scoping process whereby the District will identify potential significant environmental impacts related to the proposed project.

- Public comment is invited on the proposal to prepare a Draft SEIR and on the Project Description.

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[1] Final Environmental Impact Report for the Adobe Creek Watershed Planning Study, Santa Clara Valley Water District, May 1999. Adopted by the Board on June 15, 1999, Resolution 99-43.

- The District will consult local, state, and federal agencies with regulatory or other responsibilities for, or expertise in, the resources in the area of investigation. These include, but are not limited to, the City of Los Altos Planning Office, the Town of Los Altos Hills Planning Office, California Department of Fish and Game, San Francisco Bay Regional Water Quality Control Board, United States Army Corps of Engineers, and United States Environmental Protection Agency. Coordination with federal and state agencies and local governments will take place throughout the entire process as necessary.

- Public hearing(s) will be held after the release of the Draft SEIR.

- A 45-day public review and comment period will be provided on the Draft SEIR. All interested persons should respond to this notice and provide a current address if they wish to be notified of the availability of the Draft SEIR.

Project Background

The 1999 Adobe Creek Watershed Planning Study, consisting of an Engineer's Report and Final Environmental Impact Report, addressed Adobe Creek improvements over a 7.5 mile corridor from El Camino Real upstream to Moody Road, within the Cities of Palo Alto and Los Altos, and the Town of Los Altos Hills. One of the objectives of the Adobe Creek Watershed Planning Study was to reduce existing flooding, erosion, and sedimentation; other objectives included developing and maintaining a long-term maintenance program.

As described in the 1999 FEIR, the Reach 5 channel would have been widened from the approximate 10-foot wide existing channel to an approximate 90-foot top width channel to convey the 1 percent flow. Design features included gabions on the City of Los Altos side of the creek, a 10-foot wide low flow channel, a 10-foot wide vegetated mid-bank bench, and a 48- to 64-foot wide high flow bench for 700 lineal feet downstream of the West Edith Avenue Bridge. For an additional 200 feet downstream of the 90-foot wide channel, the existing channel would have been widened from about a 10-foot width to a 20-foot width, and rock gabions would have been added to both side slopes for slope stability.

Channel improvements in this section of Adobe Creek would have required on-site and off-site mitigation planting. The District proposed to install mitigation planting partly along the creek and partly in Edith Park, located just upstream of the West Edith Avenue Bridge. At a Town of Los Altos Hills Council meeting in April 2003, the Council declined to grant right of way in Edith Park to the District for this mitigation planting and in the project area. Without the needed right of way, District staff ceased work on the Adobe Reach 5 Project.

In September 2003, a collaborative effort was initiated to revisit the goals and objectives of improving Reach 5 of Adobe Creek. The Collaborative is a partnership between the District, local municipalities, resource agencies, and the Adobe Creek Watershed Group (ACWG). After more than two years of active participation in problem definition and alternative design development and evaluation, the Collaborative members have agreed on a preferred design alternative for Adobe Upper Reach 5 channel improvements. Plans for the preferred design alternative were agreed upon by the District and the Adobe Creek Upper Reach 5 Collaborative in June 2006.

Project Description

Project Location

The proposed project is located in the City of Los Altos and the Town of Los Altos Hills in Santa Clara County. The project footprint begins just upstream of West Edith Avenue and extends downstream for a total length of approximately 1,100 linear feet (Attachment 1).

Project Objectives

The design for Adobe Creek Upper Reach 5 is a scaled down project (less than one-percent flood protection) and would: 1) restore the creek through the reconstruction and/or repair of the eroded channel; 2) stabilize banks; 3) remove accumulated sediment; 4) and improve the channel conveyance capacity while continuing to allow for overland flows during flood events. The proposed project would address accommodating water that flows under the existing West Edith Avenue Bridge, and overland flows entering the creek downstream of the bridge. The proposed project is a combination of creek channel improvements, and channel bottom and bank erosion repairs.

Creek Channel Improvements

The proposed channel improvements will be constructed in the upper portion of Reach 5, beginning just upstream of West Edith Avenue Bridge and extend 700 feet downstream. The creek channel improvements would occur between West Edith Avenue Bridge and the Robleda Strom drain outlet. The proposed creek channel improvements would widen the existing channel to 40 to 50 feet (top width). Channel improvements upstream of West Edith Avenue Bridge would consist of placement of rock rip rap along the channel bottom. This includes removal of 1.5 feet of sediment from under the bridge. Channel modifications downstream of West Edith Avenue Bridge would consist of the reconstruction of one concrete wing wall to eliminate the channel constriction (Los Altos Hills bank) and the extension of an existing concrete wing wall (Los Altos bank). The modified channel would consist of a 15-foot wide, 1.5-foot deep bank full channel and an 8-foot wide vegetated mid-bank bench on both sides of the bank full channel. Channel bank slopes would vary from the mid-bank bench to the existing ground surface. Channel slopes from the mid-bank bench would be earthen and vegetated. Native ground cover plants and small shrubs would be planted in the mid-bank area to protect against erosion. Stream bed fill material would be placed along the channel bottom. The total length of the improvements is 500 feet.

The proposed project would include the replacement of the existing drop structure with step-pool grade control structures, beginning downstream of the existing drop structure and ending at the Robleda storm drain outlet. The grade control structures would be constructed with rock rip-rap which allows alternating heights along the face of the structures. The total length of the step pool section is 200 feet.

Channel Bottom and Bank Erosion Repairs

Channel bottom and bank erosion repair measures would begin at the Robleda storm drain outlet and extend downstream for about 400 feet. The proposed erosion control measures would consist of the placement of rock rip rap along the channel bottom to eliminate an existing 4-foot drop structure and improve fish passage and placement of rock rip rap along the channel banks to protect against further erosion. Rock rip-rap protection would be tied into the existing slope protection.

Anticipated Construction

Construction of the project would occur in one construction season, with the planting phase occurring after project construction. Pre-construction activities would begin as early as April 2008, while channel construction work would occur between June and October 2008. All channel construction activities would be completed by October 15, 2008 and plantings would be installed between October and December 2008. Topping of trees and other vegetation within the construction area may occur in December 2007 or January 2008, prior to the start of construction to avoid bird nesting season. Tree stumps shall be left in place until construction of the project starts. The construction period would be followed by a 36 – 60 month plant maintenance period.

Revegetation

The planting phase of the project would involve installation of an irrigation system and installation of native vegetation along the mid bank and along the top of bank of the creek. Revegetation will occur between October and December 2008.

Access and Staging Areas

Access to the project area during construction is proposed from West Edith Avenue and Fremont Road. Following the completion of the project, access to the creek for maintenance purposes would require the construction of a temporary ramp downstream of West Edith Avenue Bridge and/or in the vicinity of the Robleda storm drain outlet. Upon completion of the maintenance activities the ramp would be removed and the creek banks restored to their original conditions.

The potential staging areas for construction would be on the project site within the Los Altos Hills Storm Drain Conservation Easement and upstream of West Edith Avenue, in the vicinity of Edith Park and access to the construction site would be from West Edith Avenue.

Spoil Management

The Project will excavate soil material, concrete, and rubble. Soil will be reused on site and fill will be imported only when necessary. Excavated material that is not reused on site would be transported to one of the nearby landfills. The likely haul route for the disposal of spoil material would be along the nearby Foothill Expressway, which leads to Highway 280.

Probable Environmental Effects of the Proposed Project

The Draft Supplemental EIR analysis will focus on potential impacts involving hydrology, biological resources, and cumulative impacts.

Hydrology

The 2006 project would not provide 1 percent flood conveyance capacity within the first 600 lineal feet of Reach 5 immediately downstream of West Edith Avenue Bridge. The creekside residents along this section of Reach 5 chose to accept the risk of overland flows across their properties during high flow events, rather than deed their land to the District for a larger capacity channel. The depth of the overland flow and downstream extent of flooding would be less than the existing condition.

Biological Resources

Biological surveys and a Biological Resources Report were completed for the new project footprint. Biological surveys were performed for the project area and will be used to identify potential impacts to vegetation, wildlife, fisheries, and special-status species. A Tree Survey and Preservation Plan was completed for the project footprint. The project will require the removal of 64 trees within the project footprint. The trees identified for removal include 11 natives and 53 non-natives.

A wetland delineation and determination of jurisdictional waters was completed for the new project alternative to identify direct and indirect impacts to jurisdictional waters within the project footprint.

Cumulative Impacts

The California Environmental Quality Act requires an EIR to discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. A cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. A list of past, present, and probable future projects is necessary for addressing cumulative impacts and will be included in the SEIR.

Mitigation Monitoring and Reporting Program

The Mitigation, Monitoring, and Reporting Program (MMRP) will be updated to document changes in mitigation requirements and mitigation sites that have resulted from changes to the project footprint and objectives.

Alternatives

Alternatives, including the Environmentally Superior Alternative, were sufficiently analyzed in the 1999 FEIR. Additional alternatives will not be identified or analyzed in the SEIR.

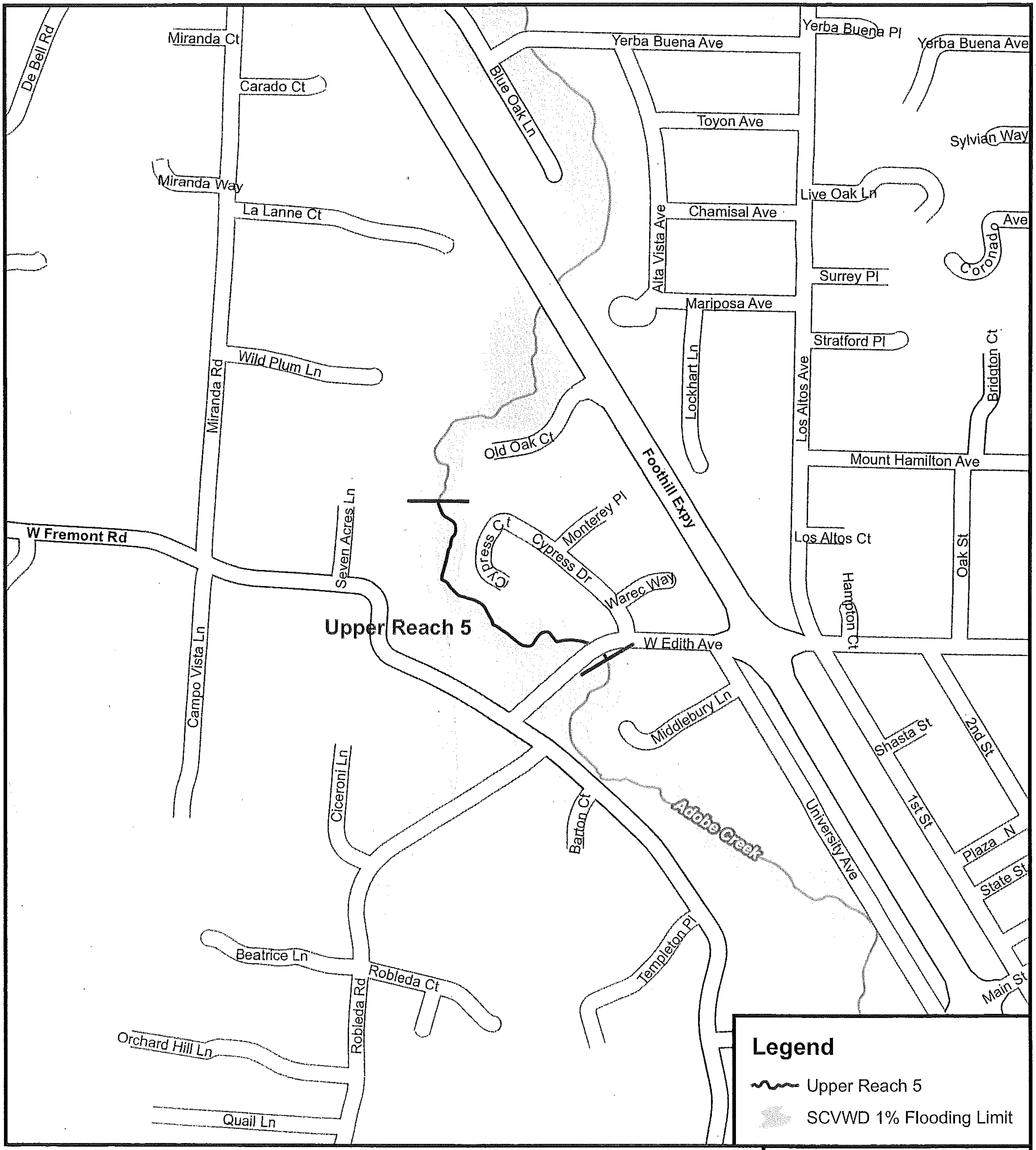
Distribution List for Notice of Preparation
Adobe Creek Upper Reach 5 Project
Los Altos and Los Altos Hills, California
Santa Clara County
Lead Agency: Santa Clara Valley Water District

Local Agencies
City of Los Altos Planning Department
City of Los Altos Public Works (Mr. James Porter)
Town of Los Altos Hills Planning Department
Town of Los Altos Hills Public Works (Mr. Henry Louie)
Santa Clara County Planning Department
Santa Clara County Clerk Recorder
Santa Clara Valley Water District (posted to web site)

State Agencies
San Francisco Bay Regional Water Quality Control Board (Region 2)
State Water Resources Control Board
California Department of Fish and Game
State Clearinghouse

Federal Agencies
United States Army Corps of Engineers
United States Environmental Protection Agency
United States Fish and Wildlife Service

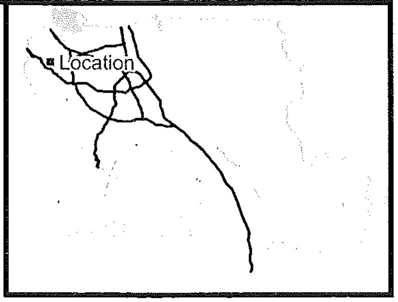
Other Interested Parties
Adobe Creek Watershed Group via Susan Mandle
Peter and Anne Astiz (Reach 5 creekside property owners)
Didier Rogez (Reach 5 creekside property owner)
Gani Jusuf (Reach 5 creekside property owner)
Rudolf and Bernice Moos (Reach 5 creekside property owners)
Eric and Pat Millar (Reach 5 creekside property owners)
Gertrude Levis (Reach 5 creekside property owner)
Robert and Mary Rose Theis (Reach 5 creekside property owners)
Gudrun Wittner (Reach 5 creekside property owner)
Paul and Nancy Lippe (Reach 5 creekside property owners)
Robinwood Pool, Inc. c/o Terese Blockhus (Reach 5 creekside property owner)
Glynn and Margaret Echerd (Reach 5 creekside property owners)
Ronald and Jenene Remmel (Reach 5 creekside property owners)
Steve and Melissa Seligman (Reach 5 creekside property owners)
Arthur Van Horne (Reach 5 creekside property owner)
Wendie Ward (Reach 5 creekside property owner)
Jon and Stacey Niermann (Reach 5 creekside property owners)
Hans and Kerstin Assarsson (Reach 6 creekside property owners)



Adobe Creek Upper Reach 5

0 0.125 0.25 Miles

Scale Approximate

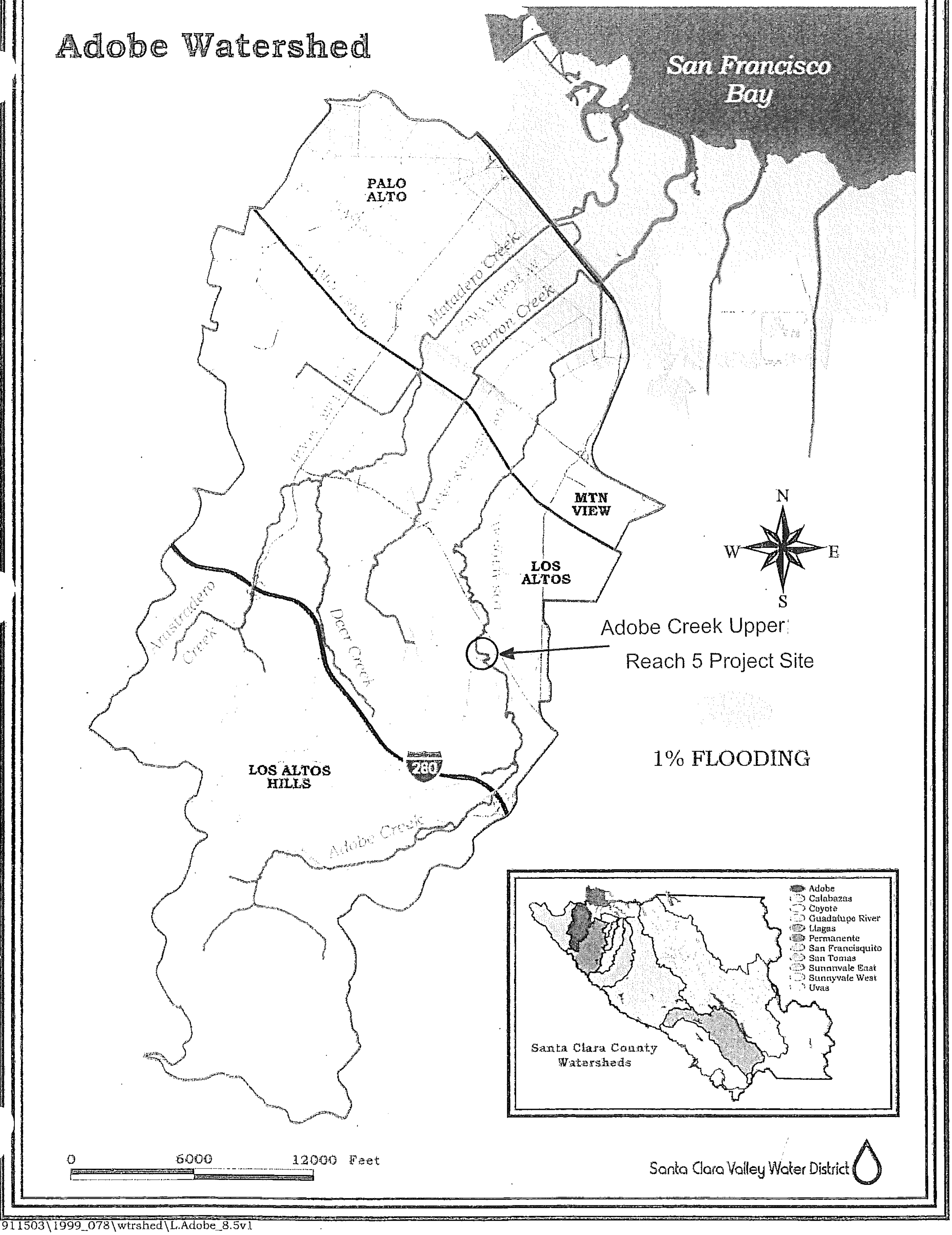


GIS themes are for illustration and general analysis purposes only and are not accurate to surveying or engineering standards. Information is not guaranteed to be accurate, current, or complete and use of this information is your responsibility.

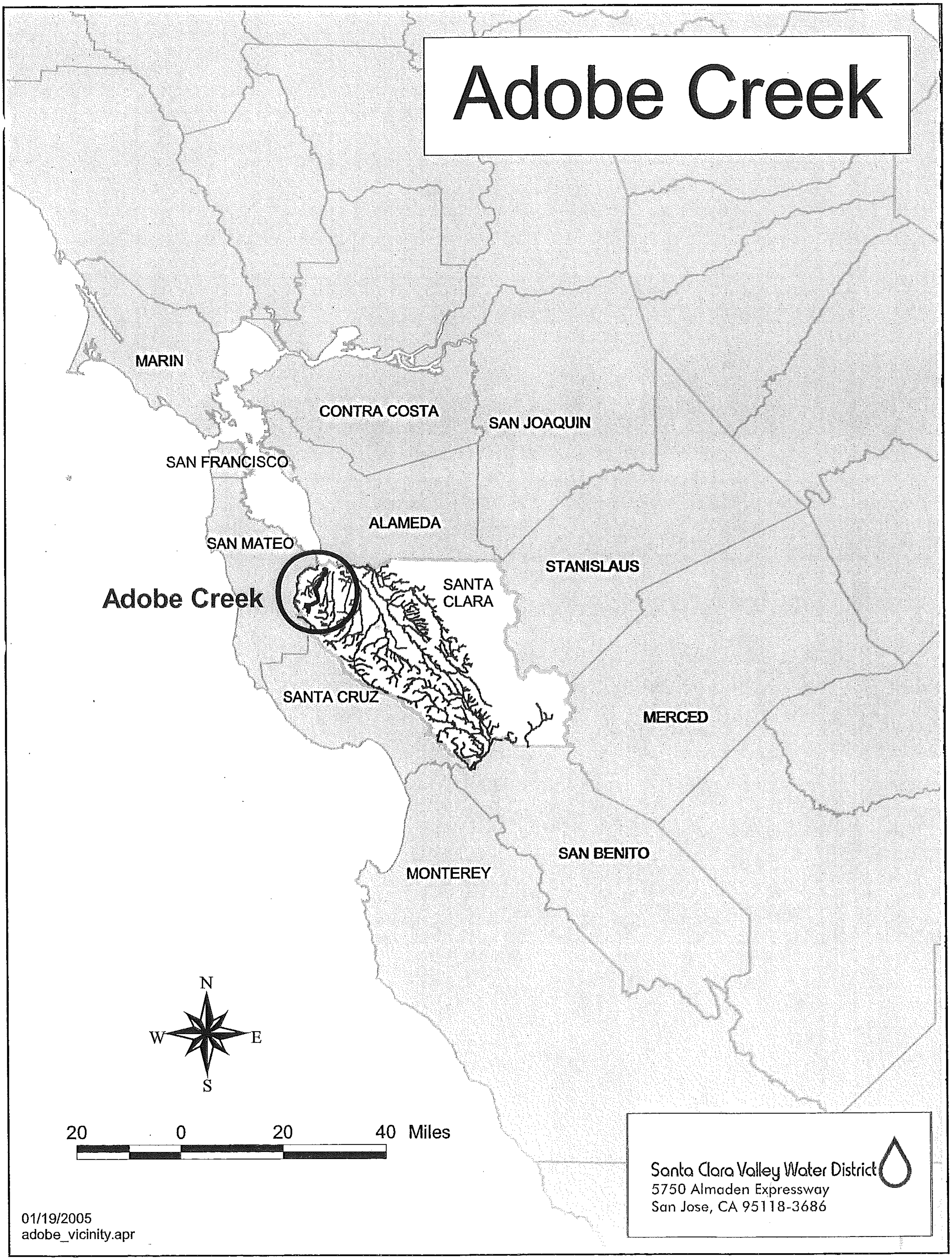
10104011\2006_120\Reach5.mxd 11\7\2006 8x11

Santa Clara Valley Water District

Adobe Watershed



Adobe Creek



Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118-3686

01/19/2005
adobe_vicinity.apr

APPENDIX B

Comments Received on Notice of Preparation

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Arnold Schwarzenegger
Governor

Sean Walsh
Director

Notice of Preparation

December 7, 2006

To: Reviewing Agencies

Re: Adobe Creek Upper Reach 5
SCH# 1995013041

Attached for your review and comment is the Notice of Preparation (NOP) for the Adobe Creek Upper Reach 5 draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Kristen O'Kane
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Senior Planner, State Clearinghouse

Attachments
cc: Lead Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH#	**1995013041**
Project Title	Adobe Creek Upper Reach 5
Lead Agency	Santa Clara Valley Water District

Type **NOP** Notice of Preparation

Description The design for Adobe Creek Upper Reach 5 is a scaled down project (less than one-percent flood protection) and would: 1) restore the creek through the reconstruction and/or repair of the eroded channel; 2) stabilize banks; 3) remove accumulated sediment; 4) and improve the channel conveyance capacity while continuing to allow for overland flows during flood events. The proposed project would address accommodating water that flows under the existing West Edith Avenue Bridge, and overland flows entering the creek downstream of the bridge. The proposed project is a combination of creek channel improvements, and channel bottom and bank erosion repairs.

Lead Agency Contact

Name	Kristen O'Kane		
Agency	Santa Clara Valley Water District		
Phone	408-265-2600	***Fax***	
email			
Address	5750 Almaden Expressway		
City	San Jose	***State*** CA	***Zip*** 95118

Project Location

County	Santa Clara
City	Los Altos, Palo Alto, Los Altos Hills
Region	
Cross Streets	W. Edith Avenue
Parcel No.	Multiple

Township ***Range*** ***Section*** ***Base***

Proximity to:

Highways	280
Airports	
Railways	
Waterways	Adobe Creek
Schools	
Land Use	Residential (Los Altos) Residential - Agricultural (Town of Los Altos)

Project Issues Flood Plain/Flooding; Wetland/Riparian; Wildlife; Cumulative Effects

---

Reviewing Agencies Resources Agency; Department of Parks and Recreation; San Francisco Bay Conservation and Development Commission; Department of Water Resources; Department of Fish and Game, Region 3; Native American Heritage Commission; California Highway Patrol; Caltrans, District 4; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 2

Date Received 12/07/2006 ***Start of Review*** 12/07/2006 ***End of Review*** 01/05/2007

Resources Agency

☒ **Resources Agency**
Nadell Gayou

☐ **Dept. of Boating & Waterways**
David Johnson

☐ **California Coastal Commission**
Elizabeth A. Fuchs

☐ **Colorado River Board**
Gerald R. Zimmerman

☐ **Dept. of Conservation**
Roseanne Taylor

☐ **California Energy Commission**
Paul Richins

☐ **Dept. of Forestry & Fire Protection**
Allen Robertson

☐ **Office of Historic Preservation**
Wayne Donaldson

☒ **Dept of Parks & Recreation**
Environmental Stewardship Section

☐ **Reclamation Board**
DeeDee Jones

☒ **S.F. Bay Conservation & Dev't. Comm.**
Steve McAdam

☒ **Dept. of Water Resources**
Resources Agency
Nadell Gayou

☐ ____________________
Conservancy

Fish and Game

☐ **Depart. of Fish & Game**
Scott Flint
Environmental Services Division

☐ **Fish & Game Region 1**
Donald Koch

☐ **Fish & Game Region 2**
Banky Curtis

☒ **Fish & Game Region 3**
Robert Floerke

☐ **Fish & Game Region 4**
Julie Vance

☐ **Fish & Game Region 5**
Don Chadwick
Habitat Conservation Program

☐ **Fish & Game Region 6**
Gabrina Gatchel
Habitat Conservation Program

☐ **Fish & Game Region 6 I/M**
Gabrina Getchel
Inyo/Mono, Habitat Conservation Program

☐ **Dept. of Fish & Game M**
George Isaac
Marine Region

Other Departments

☐ **Food & Agriculture**
Steve Shaffer
Dept. of Food and Agriculture

☐ **Depart. of General Services**
Public School Construction

☐ **Dept. of General Services**
Robert Sleppy
Environmental Services Section

☐ **Dept. of Health Services**
Veronica Malloy
Dept. of Health/Drinking Water

Independent Commissions,Boards

☐ **Delta Protection Commission**
Debby Eddy

☐ **Office of Emergency Services**
Dennis Castrillo

☐ **Governor's Office of Planning & Research**
State Clearinghouse

☒ **Native American Heritage Comm.**
Debbie Treadway

☐ **Public Utilities Commission**
Ken Lewis

☐ **State Lands Commission**
Jean Sarino

☐ **Tahoe Regional Planning Agency (TRPA)**
Cherry Jacques

Business, Trans & Housing

☐ **Caltrans - Division of Aeronautics**
Sandy Hesnard

☐ **Caltrans - Planning**
Terri Pencovic

☒ **California Highway Patrol**
Shirley Kelly
Office of Special Projects

☐ **Housing & Community Development**
Lisa Nichols
Housing Policy Division

Dept. of Transportation

☐ **Caltrans, District 1**
Rex Jackman

☐ **Caltrans, District 2**
Marcelino Gonzalez

☐ **Caltrans, District 3**
Jeff Pulverman

☒ **Caltrans, District 4**
Tim Sable

☐ **Caltrans, District 5**
David Murray

☐ **Caltrans, District 6**
Marc Birnbaum

☐ **Caltrans, District 7**
Cheryl J. Powell

☐ **Caltrans, District 8**
Dan Kopulsky

☐ **Caltrans, District 9**
Gayle Rosander

☐ **Caltrans, District 10**
Tom Dumas

☐ **Caltrans, District 11**
Mario Orso

☐ **Caltrans, District 12**
Bob Joseph

Cal EPA

Air Resources Board

☐ Airport Projects
Jim Lerner

- ☐ Transportation Projects
  Ravi Ramalingam
- ☐ Industrial Projects
  Mike Tollstrup

☐ **California Integrated Waste Management Board**
Sue O'Leary

☐ **State Water Resources Control Board**
Jim Hockenberry
Division of Financial Assistance

☐ **State Water Resources Control Board**
Student Intern, 401 Water Quality Certification Unit
Division of Water Quality

☐ **State Water Resouces Control Board**
Steven Herrera
Division of Water Rights

☒ **Dept. of Toxic Substances Control**
CEQA Tracking Center

☐ **Department of Pesticide Regulation**

Regional Water Quality Control Board (RWQCB)

☐ **RWQCB 1**
Cathleen Hudson
North Coast Region (1)

☒ **RWQCB 2**
Environmental Document Coordinator
San Francisco Bay Region (2)

☐ **RWQCB 3**
Central Coast Region (3)

☐ **RWQCB 4**
Teresa Rodgers
Los Angeles Region (4)

☐ **RWQCB 5S**
Central Valley Region (5)

- ☐ **RWQCB 5F**
  Central Valley Region (5)
  Fresno Branch Office
- ☐ **RWQCB 5R**
  Central Valley Region (5)
  Redding Branch Office

☐ **RWQCB 6**
Lahontan Region (6)

- ☐ **RWQCB 6V**
  Lahontan Region (6)
  Victorville Branch Office

☐ **RWQCB 7**
Colorado River Basin Region (7)

☐ **RWQCB 8**
Santa Ana Region (8)

☐ **RWQCB 9**
San Diego Region (9)

☐ **Other** ____________________
____
____

Last Updated on 09/10/06

State of California – The Resources Agency **ARNOLD SCHWARZENEGGER, Governor**
DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov
POST OFFICE BOX 47
YOUNTVILLE, CALIFORNIA 94599
(707) 944-5500

December 13, 2006

Ms. Kristen O'Kane
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

Dear Ms. O'Kane:

Subject: Notice of Preparation of a Draft Supplemental Environmental Impact Report, Adobe Creek Upper Reach 5 Project, SCH 1995013041, Palo Alto, Los Altos, and Los Altos Hills, Santa Clara County

This letter is to inform you that the California Department of Fish and Game (DFG) has reviewed the Notice of Preparation (NOP) of a Draft Supplemental Environmental Impact Report received on December 5, 2006. The supplement will address potential environmental impacts associated with changes to the project description, footprint, and objectives of Reach 5 improvements described in the Final Environmental Impact Report for the Adobe Creek Watershed Planning Study, May 1999.

The text on page 3 of the NOP describes the replacement of the existing drop structure with step-pool grade control structures as beginning downstream of the existing drop structure and ending at the Robleda storm drain outlet. The text implies that the Robleda storm drain outlet is downstream of the existing drop structure, whereas DFG staff recollected the Robleda storm drain outlet as located upstream of the existing drop structure based on a field visit and materials provided by the Santa Clara Valley Water District. Please confirm the location of the Robleda storm drain outlet and the placement of the step-pool grade control structures via a diagram.

Questions regarding this letter and further coordination on this Project should be directed to Ms. Tami Schane, Environmental Scientist, at (415) 831-4640; or Greg Martinelli, Acting Habitat Conservation Supervisor,
at (707) 944-5570.

Sincerely,

Robert W. Floerke
Regional Manager
Central Coast Region

cc: State Clearinghouse

California Regional Water Quality Control Board
San Francisco Bay Region

Linda S. Adams
Secretary for
Environmental Protection

1515 Clay Street, Suite 1400, Oakland, California 94612
(510) 622-2300 • Fax (510) 622-2460
http://www.waterboards.ca.gov/sanfranciscobay

Arnold Schwarzenegger
Governor

Date: DEC 1 2 2006
File No. 2188.07 (PFA)

Ms. Kristen O'Kane
Environmental Planner
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

SUBJECT: Notice of Preparation of a Draft Supplemental Environmental Impact Report for the Santa Clara Valley Water District, Adobe Creek Upper Reach 5 Project

Dear Ms. O'Kane:

Thank you for the opportunity to comment on the Notice of Preparation of a Draft Supplemental Environmental Impact Report (NOP) for the Santa Clara Valley Water District (District) Adobe Creek Upper Reach 5 Project (Project) in Santa Clara County. San Francisco Bay Regional Water Quality Control Board (Water Board) staff has reviewed the NOP and are pleased to provide you with the following comments within 30 days from receiving the NOP.

1. As a responsible agency for review under the California Environmental Quality Act (CEQA), Water Board staff agrees with the District's determination to prepare a Supplemental Environmental Impact Report (SEIR) for the Project and find this determination to be consistent with Section 21116. Subsequent or Supplemental Impact Report; Conditions, of CEQA.

2. Page 1 of the NOP describes the SEIR scope as limited to only hydrology and biological resources. Please clarify the basis for not including a review of water quality and hazardous materials impacts from the Project design. Appendix E of the Final EIR for the Adobe Creek Watershed Project describes a Phase1 Hazardous Materials Assessment that was conducted in 1993. The SEIR should clarify why this remains an adequate hazardous materials investigation after nearly 14 years.

3. Page 2, Project Background, states that the "Collaborative members have agreed on a preferred design alternative for Adobe Upper Reach 5 channel improvements". The SEIR should clarify that Water Board staff, as a member of the Collaborative, has provided support

for the design process and a conceptual design but that agreement on a design is pending a permit application and the SEIR.

4. Page 3, Creek Channel Improvements, and Channel Bottom and Bank Erosion Repairs, describe bed and bank armoring in the Project reach. The SEIR should describe the extent and reasoning for channel armoring on a site-by-site basis. In other words, there should be clear narrative and graphic descriptions of proposed rock placement and a rationale for the extent of rock in the stream bed and along the banks. As discussed in the Collaborative, rock is proposed in several locations, especially for bank erosion repair in the reach downstream of the Robleda Drain. To avoid confusion, it may be appropriate to number these specific locations as was done for the Adobe Creek Watershed Project.

   In addition, the SEIR should further describe "stream bed fill material" that is proposed to be placed along the channel bottom. Stream cobbles and gravels should be used whenever possible to improve instream habitat for aquatic species.

5. Page 4, Access and Staging Areas, describes a temporary access ramp for maintenance following Project completion. The SEIR should describe the footprint and materials that would be used for the ramp, where ramp materials would be stored (if on site), and what the anticipated impacts of ramp construction would be. If the ramp would be built in a location where riparian vegetation is to be planted, then this area would potentially be disturbed too often to be used for mitigation.

6. Water Board staff anticipate submittal of the updated Mitigation Monitoring and Reporting Program with the SEIR.

Thank you again for the opportunity to review the NOP. Water Board staff appreciate the District's ongoing efforts to include the regulatory agencies and the local public in the planning, design, and environmental review of the Project. These efforts should contribute to the efficiency of CEQA and permit application review. If you have any questions regarding this letter, please contact me at (510) 622-2429, or via e-mail at pamato@waterboards.ca.gov.

Sincerely,

Paul F. Amato
Environmental Specialist

Cc: Ms. Molly Martindale, USACE – Regulatory
Ms. Luisa Valiela, USEPA – Region IX
Ms. Tami Schane, CDFG

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, GOVERNOR

DEPARTMENT OF TRANSPORTATION
P. O. BOX 23660
OAKLAND, CA 94623-0660
(510) 286-4444
(510) 286-4454 TDD

Flex your power!
Be energy efficient!

January 3, 2007

SCL-280-15.05
SCL280342
SCH 1995013041

Ms. Kristen O'Kane
Santa Clara Valley Water District
5750 Almaden Expressway
San José, CA 95118

Dear Ms. O'Kane:

Adobe Creek Upper Reach 5 – Notice of Preparation (NOP)

Thank you for including the California Department of Transportation (Department) in the environmental review process for the proposed project. We have reviewed the NOP and have the following comments to offer:

Hydraulics
State Route 82, I-280 and US-101 are downstream of the proposed project. The proposed modifications for Adobe Upper Creek Reach 5 would result in overland flow for portion of Reach 5 during 1% flood condition. However, the depth of overland flow and downstream extent of flood would be less than the existing conditions.

The Department would like to review the proposed Draft Environmental Impact Report (DEIR) as revised by the supplement and other relevant plans as they progress.

We look forward to reviewing the DEIR for this project. We do expect to receive a copy from the State Clearinghouse, but in order to expedite our review you may send two copies in advance to:

José L. Olveda
Office of Transit and Community Planning
Department of Transportation, District 4
P.O. Box 23660, Mail Station 10-D
Oakland, CA 94623-0660

Should you require further information or have any questions regarding this letter, please call José L. Olveda of my staff at (510) 286-5535.

Sincerely,

Timothy C Sable

TIMOTHY C. SABLE
District Branch Chief
IGR/CEQA

c: Scott Morgan (State Clearinghouse)

Kristen O'Kane

From: Valiela.Luisa@epamail.epa.gov
Sent: Tuesday, December 12, 2006 9:58 AM
To: Kristen O'Kane
Cc: Martindale, Molly SPN; Paul Amato; Tami Schane
Subject: comments on NOP for draft Supplemental EIR

Hi Kristen, Because these comments are relatively minor, I am transmitting them thru an email. If you would prefer to receive comments by hard copy, please let me know. LUISA

1) In the last paragraph of page 2, Project Background section, it is written that "...the Collaborative members have agreed on a preferred design alternative for Adobe Upper Reach 5 channel improvements." The agencies as members of the Collaborative could not vote in approval of any proposed design absent the application forms for permits which describe the project and those have not yet been submitted. It may be more accurate to say the agencies have supported and participated in the process by which the District, the local agenices, and local residents have come to agreement on a design, though the agencies cannot formally approve of a project prior to an application being submitted.

2) On page 3, the Creek Channel Improvements section, in the second paragraph the sentence is confusing as to whether construction for the step-pool grade control structures moves upstream or downstream from the existing drop structure since the Robleda storm drain is upstream of the existing drop structure. Please clarify. Or better yet include a schematic so sections are readily identifiable.

3) The discussion on page 3, Channel Bottom and Bank Erosion Repairs section, where "placement of rock rip rap along the channel banks to protect against further erosion." is discussed needs to be better described in a site specific way, indicating that placement of rock rip rap will only occur in certain places.

4) The map attachments, while useful, could be better augmented with a map depicting the reach only with proposed engineering changes per the preferred design.

Kristen O'Kane

From: Martindale, Molly SPN [Molly.Martindale@spd02.usace.army.mil]
Sent: Tuesday, December 12, 2006 10:20 AM
To: Valiela.Luisa@epamail.epa.gov; Kristen O'Kane
Cc: Paul Amato; Tami Schane
Subject: RE: comments on NOP for draft Supplemental EIR

Hi Kirsten, my primary comment at this point is the one ably summarized by Luisa in "1)". Thanks, Molly.

-----Original Message-----
From: Valiela.Luisa@epamail.epa.gov [mailto:Valiela.Luisa@epamail.epa.gov]
Sent: Tuesday, December 12, 2006 9:58 AM
To: Kristen O'Kane
Cc: Martindale, Molly SPN; Paul Amato; Tami Schane
Subject: comments on NOP for draft Supplemental EIR

Hi Kristen, Because these comments are relatively minor, I am transmitting them thru an email. If you would prefer to receive comments by hard copy, please let me know. LUISA

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4) The map attachments, while useful, could be better augmented with a map depicting the reach only with proposed engineering changes per the preferred design.

Kristen O'Kane

From: Susan Mandle [jsmandle@hotmail.com]
Sent: Wednesday, January 03, 2007 1:22 PM
To: Kristen O'Kane
Cc: Tony Ndah; Jason Christie
Subject: Comments on the NOP for Adobe Reach 5

Comments on SCV Water District "Notice of Preparation of a Draft Supplemental Environmental Impact Report" for the Adobe Creek Upper Reach 5 Project, signed 11/29/06 by Stan Williams, CEO:

We are very pleased that the decision has been made, and that the District is moving ahead.

If we had been asked to comment on the document before it was signed, we might have noted and/or suggested (IN CAPS):

The word "restoration" does not appear. Was that your intention or was it just an oversight?

Avoidance of impacts is a critical element in implementation of this project, and we would like to see that philosophy stated.

4. Page 1, paragraph 2

- Perhaps saying "The project proposes a MODIFIED natural geomorphic design..." would be more appropriate.
- The agreement reached by the Collaborative was to specify a flow volume, specifically 1100 cfs as per the July 5, 2006, Alternative 8 Summary Sheet and List of Amendments, and not make reference to any percentage flood event where there is overland flow. This is extremely important. So stating "would be designed to convey A FLOW OF 1100 CFS for the first 600 lineal feet..." is then consistent with the Collaborative agreement.

Page 1, last bullet invites public comment. The community members of the collaborative are extremely motivated and interested in participating in the process at the earliest possible opportunity, including reviewing drafts and outlines of the material be prepared. Please utilize the ACWG Steering Committee to facilitate this process.

6. Page 2, 3rd bullet requests response to this notice. As such, please consider this notification on behalf of the ACWG Steering Committee c/o Susan Mandle, 25435 Fremont Rd., Los Altos Hills, CA, 94022, and also Richard Moll, at One Cypress Court, Los tos, CA 94022.

7. Page 2, last paragraph

- References to ACWG do not explain who or what that is. Perhaps stating that "ACWG IS A GROUP OF 40 TO 50 INVOLVED CREEKSIDE PROPERTY OWNERS AND OTHER CONCERNED CITIZENS OF LOS ALTOS AND LOS ALTOS HILLS, INCLUDING REPRESENTATIVES FROM THE LAH OPEN SPACE, PARKS AND RECREATION, AND ENVIRONMENTAL DESIGN COMMITTEES" would be more informative.
- Please at least include mention of Alternative 8 as the preferred alternative and, if possible, attach the Alternative 8 conceptual design drawing when stating "...the Collaborative members have agreed on a preferred design alternative..."

8. Page 3, third paragraph

- Please amend the following sentence to read, "The proposed creek channel improvements would widen the existing channel to 40 to 50 feet (top width) AS PER ALTERNATIVE 8 DESIGN."
- Please amend the following sentence to read, "This includes removal of A MINIMUM OF 18 INCHES of sediment from under the bridge."
- Perhaps this section could have said something about hardscape removal and an overall environmental improvement, since Alternative 8 will reduce the percentage of creek bank surface area covered by hardscape.

- With regards to line 7, please describe the nature of the proposed rock armoring more precisely as natural boulders and do not allow for the interpretation of rock rip rap as impervious cemented-in surfaces.

- The native ground cover plants and small shrubs mentioned in line 15 should be chosen from the plant list for the project approved by the residents.

- Stream bed fill material mentioned in line 16 should be re-used project bank soils.

- A precise analysis of the site is needed to characterize the soil.

9. Page 3, last paragraph

- Why does the NOP talk of "rock rip rap on the channel bottom to eliminate an existing 4 -foot drop structure..." downstream of the Robleda stormdrain, when the agreed to Alternative 8 shows step pool grade control structures similar to those mentioned in the preceding paragraph of the NOP? Is there a difference? Is this an intentional change, or should the wording and concepts be similar?

- This paragraph also leaves the impression that more hardscape is being introduced in Reach 5 without mention of the hardscape that will be removed. Perhaps this section could have said something about hardscape removal and an overall environmental improvement, since Alternative 8 will reduce the percentage of creek bank surface area covered by hardscape.

- With regards to line 3, please describe the nature of the proposed rock armoring more precisely as natural boulders and do not allow for interpretation of rock rip rap as impervious cemented-in surfaces.

- Special attention should be noted for the possiblity of unearthing Ohlone Indian artifacts at the location of the Robleda Storm Drain outlet. The pool historically located here could have been a water source as well as a fishing hole food source.

10. Page 4, first paragraph

- Does the statement "Topping of trees and other vegetation within the construction area may occur in December 2007 or January 2008..." imply that all trees within the construction area will be topped, or only those that will be removed?

- As agreed, we expect a planting plan to be in place before any trees are removed.

11. Page 4, 2nd paragraph only says "native vegetation". Our ongoing discussions would suggest that "native AND OTHER APPROPRIATE VEGETATION" would be more appropriate.

12. Page 4, third paragraph implies that the temporary access ramp for maintenance purposes will be in place for the 60 month (5 year) plant maintenance period. Is this correct?We understood that a temporary ramp would be installed and removed in case of emergency only. No ramps were discussed as being part of a 5 year maintenance program.

13. Page 4, fourth paragraph should recognize that the proposed access and staging areas for construction have not yet been agreed to.

14. Page 5, 2nd line mentions a 'A Tree Survey and Preservation Plan". Could it be made available to the ACWG in a timely fashion? Since the tree survey is not yet available, we have not been able to confirm the tree count.

15. Page 6, 1st figure, in gray scale shows the SCVWD 1% Flooding Limit. We believe the last 9-2-2006 presentation showed reduced overland flooding, especially at the Edith and Fremont intersection, and in the vicinity of the Ward property.

Thank you,

Adobe Creek Watershed Group Steering Committee

APPENDIX C

Comparative Matrix of 1999 Project to 2006 proposed Project

Adobe Creek Upper Reach 5 Project
Analysis of 1999 EIR Language for Applicability to 2006 Proposed Project

	1999 FEIR Environmental Element	1999 FEIR Discussion – Based on 1999 Project Description	1999 Mitigation Measure(s) specified in FEIR	2006 Proposed Project Discussion	Comparison
	Land Use **Section II.A.**	**R/W Required** Page 40, paragraph 3. "The project in Reach 5 would require a substantial amount of the Rogez property that is currently being developed into a three-lot subdivision. As part of the subdivision development, the Town of Los Altos Hills has required that the developer dedicate an easement on the property sufficient to construct the project. The channel modifications through this reach would be constructed only if the Town of Los Altos Hills obtains the easement."	**R/W Required** The use of this property by the project would not result in a significant land use impact.	**R/W Required** Construction of the channel modifications downstream of West Edith Avenue is based on the right of way limits (blue lines) established by the Collaborative which are 8 to 24 feet less than the R/W required for the 1999 EIR project.	**R/W Required** Less property is needed from Rogez, et. al. for the 2006 Alt 8 Project R/W, thus reducing this impact. No change to EIR
		Construction Page 40, paragraph 5. "The project would result in potentially significant land use impacts during construction of the proposed channel modifications. These impacts could result in disruption upon adjacent residential uses during construction activities. These impacts would include additional noise and dust impacts from pile driving, potential loss of privacy, and property damage impacts. The project may also result in visual impacts associated with the removal of trees or other vegetation."	**Construction** Less-than-significant Impact with Mitigation which refers to the construction impact section of EIR – p 121. *See "Construction Related Impacts" Section II.I below for more details.*	**Construction** Construction excavation will be reduced due to the smaller project footprint, thus resulting in less truck traffic. Gabions will not be used; however, rock will be used to stabilize portions of the creek. The rock materials imported to the site would be the same or less. Pile driving will not be needed. Other construction activities would be the same. Best Management Practices (BMPs) would be applied to the construction work.	**Construction** Same or less construction impacts are anticipated. No change to EIR.
		Off-site Mitigation Pages 40 and 41 (Land Use Impacts Associated with Mitigation Measures), paragraphs 1 and 2. In Section II., D., Vegetation and Wildlife, of this EIR, there is detailed discussion of mitigation sites which are required to offset riparian impacts of the project. "These proposed mitigation sites consist of up to five sites located on private or public land adjacent to Adobe Creek. Use of these lands for the mitigation sites would affect the existing land uses. In most cases, this impact would not be significant, since it would not change the land use of the mitigation site." **Page 41, paragraph 2.** "One of the mitigation sites identified is within the existing West Edith Avenue Park, a one acre neighborhood park owned and maintained by the Town of Los Altos Hills. As described in Section II., D Vegetation and Wildlife, of this EIR, it has not been determined exactly how much of this park would be needed for mitigation. Preliminary mitigation plans call for a strip of land along the creek, up to 0.7 acres in size, to be used for riparian restoration."	**Off-site Mitigation** **P 41** "The District, the project biological consultant, and members of the Town of Los Altos Hills Environmental Design Committee have met at the park and have discussed the use the park's creek area as a mitigation site. The Town has tentatively agreed to the proposed mitigation plans, contingent on review of the final plans, and does not consider the use of a portion of the park for riparian restoration as adversely affecting park use. For this reason, the use of the park land is not considered a significant land use impact."	**Off-site Mitigation** Onsite mitigation will suffice for the 2006 proposed Project. Mitigation requirements will be negotiated with the resource agencies.	**Off-site Mitigation** The smaller project footprint, elimination of gabion materials, and removal of fewer trees will require less mitigation than indicated in the 1999 EIR. The use of Edith Park for off-site mitigation is not anticipated. EIR should be amended to reflect change in biological mitigation requirements and locations.
	Geology **Section II.B**	**Page 42:** The project proposes to repair the remaining 17 "major erosion sites and install rock weirs at eight locations." Preliminary assessment indicates that "proposed stream channel modifications would be generally compatible with the local geology." …"However,	**Page 44 under Mitigation.** A complete geologic investigation of the project site shall be conducted, and specific recommendations made to the District to mitigate potential geotechnical hazards along the channel prior to project construction,	The proposed project footprint is located within the area of that described in 1999 EIR. The existing channel from W. Edith Ave. downstream approximately 700 lineal feet to the Robleda Storm Drain will be improved (natural geomorphic and step pools). Downstream of	Same; the geological (investigation) report will be used for the design of the 2006 Alt 8 project resulting in the same geological recommendations incorporated into the design. No change to EIR

	1999 FEIR Environmental Element	1999 FEIR Discussion – Based on 1999 Project Description	1999 Mitigation Measure(s) specified in FEIR	2006 Proposed Project Discussion	Comparison
		because the subsurface soil conditions have not been directly examined at most locations and because the project site is generally underlain by loose, poorly sorted alluvium construction along the Adobe Creek channel could result in potential geologic impacts."	which may include excavation dewatering, shoring and bracing, and other stabilizing measures. All recommended measures would be implemented into the project. Less-than-significant Impact with Mitigation	the Robleda Storm Drain approximately 400 lineal feet of channel and bank erosion repair will occur. The proposed erosion control measures would consist of toe protection, and the placement of rock rip rap along the channel bottom. Rock rip-rap protection would be tied into the existing slope protection.	
	Hydrology, Drainage and Flooding Section II.C	Page 46, item 2 (Impacts). For the purposes of this project, a drainage or flooding impacts is considered significant if the project would: • Increase the potential for flood-related property loss or hazard to human life; or • Significantly increase the peak stormwater runoff. "The project is designed to reduce the potential for flooding-related hazards and/or property loss along the project portion of Adobe Creek. The proposed channel modifications would not increase the peak stormwater runoff. Upon completion of the project, the one percent floodplain would be reduced along Adobe Creek within the project limits. This is a beneficial impact of the project. A major goal of the project is to contain the one percent flood within the creek channel as much as possible and provide appropriate modifications to reduce flood hazards. Therefore, the proposed project would have a beneficial impact upon the hydrological and drainage characteristics, and flood protection, of Adobe Creek."	Page 46. No mitigation required. Project considered beneficial because it reduces flooding damage.	The proposed 2006 proposed Project will not provide 1 percent flood conveyance capacity in the first 700 lineal feet of Upper Reach 5. Most of Adobe Creek upstream of the project does not have 1 percent flood conveyance capacity, and there are no plans to change this in the future. The creek side residents along the first 700 lineal feet of Reach 5 have chosen to accept the risk of overland flows across their properties during high flow events, rather than deed their land to the District for a larger capacity channel. On an infrequent basis, high flows will overtop Adobe Creek upstream of Reach 5 in Edith Park, will flood Edith Park, flow over W. Edith Avenue and through backyard properties before re-entering the creek. New structures that have been erected on properties adjacent to Adobe Creek Upper Reach 5 since 1999 have all been raised to be above the base flood elevation.	In the 100-year storm event overland flows would still occur in Edith Park and flow across W. Edith Avenue and through backyards before re-entering the improved channel as would have been the case with the 1999 project and the existing condition. **EIR should be amended to address the change in objectives from the 1999 Reach 5 project that would have increased the conveyance capacity to 1 percent to an objective that of stream restoration that will provide less than 1 percent flood capacity. No impact to existing structures.**
	Vegetation, Wildlife and Fish **Section II.D**	Page 52. The two areas that would undergo the greatest physical changes affecting vegetation and wildlife are located at West Edith Ave (Reach 5) and Foothill College (Reach 11). Page 61-62: Table 8 identifies Special Status Species that could occur in Adobe Creek. Page 66: Identifies applicable local tree ordinances and permits and significance criteria. Page 72: "Two passable channel drops (structures) downstream of W. Edith Avenue will be replaced with passable structures." Page 73 Loss of Ordinance trees discussed potential significant impacts associated with the removal of 10 Coast Live Oaks from riparian area that would be subject to local tree ordinances. P 77: "Tree stem impacts total 147, including 58 natives and 89 non-natives. Most (126) of these stems are in the small size range (1-11 inch d.b.h.)."	Page 69: Wildlife design elements identified – i.e., avoid left bank to preserve significant trees; mid-bank soil bench created to allow for revegetation close to the reconstructed low-flow channel; lower height of riprap placement on creek bank to minimize excavation of slopes above riprap. Page 73. "All drop structures will be "fish passable" and all culvert low flow channels will have baffles to create resting spots." Page 77-78 (Tables 11 & 12) Impacts to riparian corridor from vegetation removal is identified along with mitigation ratios -- 0.46 acres impacted due to channel modification. Page 82. Table 17 indicates compensatory mitigation requirement from vegetation removal of 0.46 ac. to be 0.56 acres of mitigation for 0.46 acres of impact area based on the mitigation ratios specified in the text. Pages 88-93: Two mitigation sites are described (West	Grading requirements and limitations, topping of trees and other vegetation within the construction area may occur in December 2007 or January 2008, prior to the start of construction to avoid bird nesting. Tree stumps shall be left in place until construction of the project begins. In the years since the original Tree Survey, conducted in 1993, it is probable that some of the trees slated for removal that were previously too small to be subject to local ordinance requirements for replanting have grown larger than 12" dbh and would now require additional mitigation. In the years since the original Biologic Assessment was conducted (1994-5) new special status species information that would change the impact evaluation may now require additional mitigation. Since the original Wetlands Delineation was conducted in 1993, a new delineation would need to be applied to	Fewer trees will be removed for the 2006 Alt 8 project (147 reduced to 64. The length of time since wetland delineation makes delineation not valid for the proposed Project. **The 2006 proposed Project identified more jurisdictional waters and special-status wildlife species with potential to occur on site than the 1999 proposed project.** **EIR should be amended to asses impacts based on the current biological resources report, tree survey, and wetland delineation. EIR should be amended to reflect change in mitigation requirements.**

	1999 FEIR Environmental Element	1999 FEIR Discussion – Based on 1999 Project Description	1999 Mitigation Measure(s) specified in FEIR	2006 Proposed Project Discussion	Comparison
		Page 77. The proposed project would result in the loss of .046 acres of habitat on the right bank of the riparian corridor. The vegetation on the left bank, including redwoods lining the channel, would not be impacted by the project. The right bank impact area consists primarily of lower habitat quality.	Edith Ave Channel Modification Mitigation Site, 0.3 acres and West Edith Avenue Park Mitigation Site, 0.7 acres). Page 101-103: Mitigation revegetation requirements and compensation analysis for each habitat type are identified. Less-than-significant Impact with Mitigation	the proposed Project.	
	Water Quality Section II.E	Page 74-75 (Table 10) cut and fill: "The project proposed best management practices to reduce water quality impacts from erosion and sedimentation. The construction contractor is required to prepare a Stormwater Pollution Prevention Plan. The project also specifies that grading would only occur during dry months (April 15 – October 15) and all exposed soil surfaces would be recovered and seeded as the work progresses. Given these precautionary measures, no significant impacts upon vegetation and wildlife are anticipated from the temporary degradation of water quality during construction." Page 105. "Proposed modifications along the Adobe Creek channel would expose bare soils and could result in increased erosion, turbidity, and sedimentation during project construction. The increased sedimentation potentially generated could degrade the quality of water in the creek and San Francisco Bay by transporting other pollutants adhered to sediments, or adversely affecting biological resources."	Page 74-75 (Table 10) cut and fill: "The project proposed best management practices to reduce water quality impacts from erosion and sedimentation (listed in Engineer's Report). The construction contractor is required to prepare a Stormwater Pollution Prevention Plan. The project also specifies that grading would only occur during dry months (April 15 – October 15) and all exposed soil surfaces would be recovered and seeded as the work progresses. Given these precautionary measures, no significant impacts upon vegetation and wildlife are anticipated from the temporary degradation of water quality during construction." Page 105. Mitigation would include a Storm Water Pollution Prevention Plan (SWPPP), Regional Water Quality Control Board NPDES Permit No. CAS029718, and BMPs to minimize erosion. During construction these BMPs include, working during periods of low creek flows, implementation of temporary erosion control measures, and stabilization and/or revegetation of disturbed areas of the channel. Less-than-significant Impact with Mitigation	Construction of the project will occur during a period where the creek is normally dry. In the event that stormwater flows occur within the project area during construction, enclosures or flow barriers shall be erected by the Contractor to prevent stormwater flows from entering the work areas and further degrading the water quality downstream (May 2006 PD, page 5).	Anticipated water quality impacts during construction are the same for both the 1999 project and the 2006 proposed Project. No change to EIR. BMPs will be updated where appropriate to reflect current standard operating procedures.
	Hazardous Materials Section II.F	Page 108-109 (Table 23) Based on the results of the regulatory database search and field investigation, it is unlikely that any of the sites identified in the database currently present hazardous materials impacts to the Adobe Creek alignment. Based on the conclusions of the Phase I analysis prepared by Terratech, Inc., it is determined that the project area has a low likelihood of being impacted by any of the known, nearby contaminated sites.	Page 114. Prior to construction, soil profiling will be conducted to characterize the Adobe Creek sediments and embankment soils to be excavated in order to determine soil reuse and disposal options. The project is not expected to result in any significant hazardous materials impacts. Implementation of the above mitigation would further minimize any potential hazardous materials impacts.	Same as 1999 EIR	The Phase 1 Hazardous Substances Liability Assessment conducted prior to easement acquisition found no cause to suspect any contaminated soils or raise any hazardous materials concerns. No change to EIR
	Cultural Resources Section II.G	An archaeological field inspection and archival search of the project site was conducted in April 19994. The complete report can be founding Appendix F of the 1999 FEIR.	Page 115. "In the event that prehistoric or historic resources (Human remains, artifacts, concentrations of shell/bone/rock/ash, dishware) are encountered during construction or maintenance activities, all construction and maintenance within a fifty meter radius of the find would be stopped, the District notified, and an archaeologist retained to examine the find and make appropriate recommendations. The District will follow the archeologist's recommendation to reduce impacts to cultural resources to less-than-significant." Less-than-significant with mitigation	Less: Since the project footprint is smaller, the extent of excavation will be reduced; This will reduce the risk of a cultural resource disturbance.	No change to EIR.

	1999 FEIR Environmental Element	1999 FEIR Discussion – Based on 1999 Project Description	1999 Mitigation Measure(s) specified in FEIR	2006 Proposed Project Discussion	Comparison
	Visual and Aesthetics Section II.H	Pages 117 – 118, paragraph 2. 'The above proposed measures would alter the configuration of the Adobe Creek channel, from a narrow channel with a wooden wall located on the right bank, to a low flow channel with a wide earthen flood bench. The replacement of the existing wooden wall with a wide floodbench would change the existing narrow, chute-like character of the channel, but is considered to be an aesthetic benefit. Vegetation removed by the project from the left bank (on the Rogez property) would result in a temporary loss of visual screening for the Cypress Court residents along the opposite bank. Existing views of trees and other vegetation would be replaced with views of the rock riprap and earthen flood bench for a period of approximately five years, as the mitigation planting begin to grow and screen the view. The project would result in no net loss of vegetation. For reasons described above, the modifications proposed in this area are not anticipated to result in significant visual impacts."	Pages 117 & 118. "Based on the above discussion, the project would not result in significant visual impacts that would require mitigation beyond what is being provided to address riparian impacts. " No mitigation required.	The 2006 proposed Project consists of the following: *For the first 500 lineal feet beginning at W. Edith Ave. Bridge:* 1) Widening the existing channel bottom to 10-feet; 2) Leaving in place existing gunite along City of Los Altos bank to protect mature redwood tree roots; 3) Installing an earthen bottom low flow channel with 9-foot wide vegetated benches on both sides; 4) No high-flow bench. Maximum width of channel is 40-50 feet. *For an additional 200 lineal feet:* Step pools with fish passable structures. No gabion structures will be installed. This section will be lined with rock to 4 feet above the invert. The remaining bank areas will be vegetated. Maximum channel width will range from 50-55 feet. *For an additional 200 lineal feet:* Channel width will not be modified. No gabion structures will line this section. Rock toe protection and rock slope protection will be provided where necessary up to the 10-year flow level *For an additional 200 lineal feet:* This section is outside the 1999 project limits. Rock toe protection and rock slope protection, as needed, will be installed up to the 10-year flow level.	The creekside residents most affected by the project now place a high aesthetic value on their trees, both native and non-native, which should be reflected in the MMRP. The three properties (Astiz, Rogez, Jusuf) on the Los Altos Hills side of the creek immediately downstream of W. Edith Avenue now have homes on the properties. It is now more apparent as to where vegetation screening should be placed.
	Construction-related impacts Section II. I Construction-related impacts Section II. I	**Adjacent Residences** Page 121 (Existing Setting), Paragraph 1. The proposed channel modifications would take place along the upper portion of Adobe Creek… Many residences directly border the creek channel. A list of the properties that would likely experience temporary damage or disturbance is presented in Table 24." **Paragraph 2.** The short-term impacts of construction generally fall into two categories: 1) construction nuisances (such as traffic, noise, dust, vibration and privacy impacts); and 2) the physical effects on adjacent properties from project construction.	**Adjacent Residences** See Property Damage and Temporary Privacy and Security below.	Adjacent Residences The potential staging areas for construction would be on the project site within the Los Altos Hills Storm Drain Conservation Easement and upstream of West Edith Avenue, in the vicinity of Edith Park. Access to the construction site would be from West Edith Avenue, a residential street.	**Adjacent Residences** No change to EIR. BMPs will be updated where appropriate to reflect current standard operating procedures.
		Traffic: Pages 121 – 123 (Temporary Traffic Impacts) A traffic impact is considered significant if during construction activities the project would: • cause an increase in traffic which is substantial in relation to existing traffic load and capacity of the street system; or • result in potentially unsafe conditions (at an intersection). "The project would not result in an increase in traffic and would not result in potentially unsafe conditions. Any truck trips associated with project construction would avoid neighborhood streets to the greatest extent feasible, except where a local street may need to be traversed to access a site. The majority of the construction traffic trips would be associated with the main work sites, which would be accessed by major roadways."	**Traffic** **Page 123.** Based upon the above discussion, the project would not result in significant short-term traffic impacts. **Page 127 (Temporary Traffic Mitigation).** • Any truck trips associated with project construction would avoid neighborhood streets, except where a local street may need to be traversed to access a site. • A detour plan would be implemented, as described above, to minimize potential traffic impacts on roadways affected during culvert replacement.	Traffic Access to the project area during construction will be from West Edith Avenue and Fremont Road. Spoils management including anticipated amount of cut and fill: The 2006 proposed Project will generate about 1,259 truck trips to haul excavated soil materials, concrete, and rubble. Materials may be temporarily stockpiled onsite in the staging area prior to disposal. Disposal of excavated material would occur between June and October 2008 on an average of about 16 truck trips per day.	Traffic No change to EIR. BMPs will be updated where appropriate to reflect current standard operating procedures.

1999 FEIR Environmental Element	1999 FEIR Discussion – Based on 1999 Project Description	1999 Mitigation Measure(s) specified in FEIR	2006 Proposed Project Discussion	Comparison
	Air Quality **Page 124 (Temporary Air Quality Impacts)** "The project would not generate air pollutant emissions or increase the number of vehicle trips or vehicle miles traveled over the long term, since it does not propose any new development or expansion of existing development. However, the construction of the channel modifications would result in temporary vehicle emissions from trucks, bulldozers, and gas-powered construction equipment. Since project construction would be limited and temporary, any truck trips associated with the project would not result in significant air quality impacts. During project construction, temporary increases in dust emissions would occur from the movement of earth and structural materials. The control and prevention of excessive dust would be accomplished through the watering of earth during construction activities, which is a standard construction management practice. Therefore, potential dust emissions are not expected to be significant.	**Air Quality** **Page 124, paragraph 4.** Based upon the above discussion, construction of **the project would not result in significant temporary air quality impacts**. **Page 127 (Temporary Air Quality Mitigation).** • Earthmoving or other dust-producing activities would be suspended during period of high winds. • Equipment and manpower would be provided for watering of all exposed or disturbed soil surfaces at least twice daily. An appropriate dust palliative or suppressant, added to water before application, may be utilized. • Stockpiles of soil or other materials that can be blown by the wind would be watered or covered. • Paved construction areas and adjacent streets would be swept of all mud and debris, since this material can be pulverized and later resuspended by vehicle traffic.	Air Quality Same as 1999 EIR	**Air Quality** **Same or less:** Due to reduced truck traffic mentioned above, same or lower air quality impacts are expected. No change to EIR. BMPs will be updated where appropriate to reflect current standard operating procedures.
	Noise **Pages 124 – 125 (Temporary Noise Impacts).** **Paragraph 1.** For the purposes of this project, a noise impact during construction activities is considered significant if the project would: • result in a substantial change in the character of the noise environment; or • result in a 5-dBA increase in ambient noise level in an area considered acceptable for its given use; or • result in a 3-dBA increase (i.e., the threshold of change) in ambient noise level in an area already considered noise impacted; or • if the project-generated noise would result in a conflict with established plans and policies. The proposed project would not result in long-term noise level increases, since it does not propose any new development or expansion of existing development. **Page 125.** "The construction of the proposed modifications would result in short-term noise impacts upon surrounding residential land uses at some locations from construction equipment. The use of heavy equipment would result in high noise levels adjacent to the construction sites. A list of the noise levels from typical construction equipment is provided in Table 25, below. The noise levels listed in Table 25 assume that the receiver is 25 feet from the construction equipment. It should be noted that there is a 6dB reduction in noise level for every doubling of distance. For example, At 25 feet from a backhoe/gradeall, the noise level would be 78-79 decibels. At 50 feet from the same backhoe/gradeall, the noise level would be 72-93 decibels, and at 100 feet from the backhoe/gradeall, the noise level would be 66-87 decibels.	**Noise** **Page 125,** "In areas where construction would take place near residential backyards, temporary noise impacts from the project would occur. This construction noise could adversely affect both residents and their pets. These noise impacts would be potentially significant for the duration of construction. However, due to the short-term nature of the construction impacts and the proposed measures to reduce construction noise where possible, the noise impacts of the project are not considered significant." "Based upon the above discussion, the project would not result in significant construction-related noise impacts due to their short-term nature." **Page 127 (Temporary Noise Mitigation).** Construction activities would be conducted in accordance with all City Noise Ordinances which typically limit construction activity to the period between 7:00 AM and 6:00 PM Monday through Friday and 9:00 AM and 6:00 PM on Saturday. **Page 127 (Mitigation).** The contractor would be required to use "new technology" power construction equipment with state-of-the-art noise shielding and muffling devices. All internal combustion engines used on the project would be equipped with adequate mufflers and would be in good mechanical condition to minimize noise created by faulty or poorly maintained engine, drive-train and other components.	Noise The same equipment and general construction activities will be used in the 2006 proposed Project resulting in the same noise or less impacts. No pile driving for 2006 project.	**Noise** No change to EIR. BMPs will be updated where appropriate to reflect current standard operating procedures.

1999 FEIR Environmental Element	1999 FEIR Discussion – Based on 1999 Project Description	1999 Mitigation Measure(s) specified in FEIR	2006 Proposed Project Discussion	Comparison
	Property Damage Construction of the project would not result in significant property damage impacts on residences in the vicinity of project construction.	**Property Damage** **Page 128 (Mitigation)** In areas where foundation support is necessary and the use of a pile driver is not feasible due to the proximity to residences or utility lines, drilled piers would be used, rather than a pile driver, to avoid property damage impacts due to excessive vibration.	**Property Damage** The same equipment and general construction activities will be used in the 2006 Proposed Project resulting in the same property damage or less impacts. No pile driving for 2006 project.	**Property Damage** No change to EIR.
	Temporary Privacy And Security The project would result in short-term privacy and security impacts on homes adjacent to the areas of construction on the creek. Fences and other barriers may be removed and construction crews working adjacent to homes would temporally infringe upon the privacy of backyard areas. Pets may also be affected by the removal of fences.	**Temporary Privacy And Security** Construction off the project would not result in significant privacy and security impacts. Page 128 (Temporary Privacy Mitigation). The District would install temporary construction fencing to replace any backyard fences removed during construction, to provide security and privacy. Permanent fences would be replaced in kind. Although these privacy impacts would represent a temporary nuisance to the affected residents, they do not represent a significant impact.	**Temporary Privacy And Security** Same as 1999 EIR	**Temporary Privacy And Security** No change to EIR.
Utilities Section II.J	Page 128 – 129. (West Edith Avenue) "One water line, one sanitary sewer, and a JP line extend the southern side of West Edith Ave on the project vicinity. In addition, a gas line, a storm drain CMP line, and a phone line extend along the northern portion of West Edith Ave. Some of these utilities may not be affected by the project"	Page 129. Although the project would not result in significant impacts on utilities, the following measures would mitigate potential utilities impacts. All underground utilities would be relocated during the project construction as necessary. Any damage to these utilities would be repaired and/or replaced by the District or utility company.	The construction activity in the vicinity of W. Edith Avenue Bridge where utilities are located will be essentially the same. Same as 1999 EIR	**Utilities** No change to EIR.
Cumulative Impacts of the Proposed Project Section II.K	Page 129, item 1 (Impacts). The project is not expected to result in cumulative impacts due to the short-term nature of most of these impacts. The only possible exception is the potential cumulative impacts upon vegetation and wildlife. These potential impacts include: Vegetation and Wildlife *Note: For Reach 5, see H.T. Harvey and Associates 1988 "Biological Resources Report."* Page 130, paragraph 2. In addition to the proposed project, there are other recent, ongoing, and future projects which will affect the riparian ecosystem in other streams within Santa Clara County. Some of these projects are directly associated with the Santa Clara Valley Water District, while others are related to ongoing area wide development. There are relatively few projects cumulatively impacting Adobe Creek because of the almost continuous urban development along both banks. Other projects in the general area include the following: Recent flood control projects • Instream Recharge Program • Channel Maintenance activities by the District. • Construction and replacement of numerous bridges across streams and creeks. • Adjacent development along creeks. • Overall urban development in Santa Clara Valley	Page 132. "All projects considered to have potential impacts on the area's riparian resources are subject to individual environmental review under CEQA and/or NEPA, and are required to include mitigation to offset those impacts. The mitigation of the individual project's significant impacts would avoid significant unmitigated cumulative impacts."	At this time, There are no known probable future projects within the project vicinity or within Adobe Creek except for emergency or routine maintenance activities through the District's Stream Maintenance Program.	No new cumulative impacts have been identified for the 2006 proposed Project. No change to EIR.

APPENDIX D

Best Management Practices

Air Quality

AQ-1	**Bay Area Air Quality Management District Basic Dust Control Measures (all construction sites)**	Implement Bay Area Air Quality Management District (BAAQMD) Basic Control Measures for construction emissions of PM_{10} at all construction sites. Current measures stipulated by the BAAQMD CEQA Guidelines include the following (BAAQMD 1999): 1. Active areas shall be watered at least twice per day unless soils are already sufficiently moist to avoid dust. The amount of water must be controlled so that runoff from the site does not occur, yet dust control is achieved. 2. Trucks hauling soil, sand, and other loose materials shall be covered or shall maintain at least two feet of freeboard. 3. Unpaved access roads, parking areas and staging areas at construction sites shall be paved, watered three times daily, or non-toxic soil stabilizers shall be applied to control dust generation. 4. Paved site access roads, parking areas, and staging areas shall be swept daily (with vacuum-powered street sweepers). 5. Paved public streets shall be swept (with vacuum-powered street sweepers) if visible soil material is carried onto adjacent paved surfaces. *Source: BAAQMD CEQA Guidelines*
AQ-2	**Bay Area Air Quality Management District Enhanced Dust Control Measures (sites greater than 4 acres in size)**	For sites greater than four acres in size, implement Bay Area Air Quality Management District Enhanced Dust Control Measures. Current measures stipulated by the BAAQMD CEQA Guidelines include the following (BAAQMD 1999): 1. All BAAQMD "Basic" control measures. 2. Inactive areas (previously graded areas inactive for ten days or more) shall be sprayed with soil stabilizer or seeded. 3. Exposed stockpiles (dirt, sand, etc.) shall be watered twice daily, enclosed, covered, or sprayed with soil stabilizers. 4. Traffic speeds on unpaved roads shall be limited to 15 mph. 5. Sandbags or other bank protections shall be installed to prevent silt runoff to roadways. 6. Vegetation in disturbed areas shall be replanted as soon as horticulturally appropriate. For example, plant material may not be ready as soon as the job is done (e.g. willow cuttings have to be collected during winter dormancy). *Source: BAAQMD CEQA Guidelines*

AQ-3	**Bay Area Air Quality Management District Optional Dust Control Measures** **(Individual optional control measures may be incorporated, as appropriate)**	Implement appropriate Bay Area Air Quality Management District (BAAQMD) Optional Control Measures for construction emissions of PM_{10} at all construction sites. BAAQMD Optional Control Measures are strongly encouraged at construction sites that are large in area, located near sensitive receptors, or which for any other reason may warrant additional emissions reductions. Current measures stipulated by the BAAQMD CEQA Guidelines include the following (BAAQMD 1999): 1. Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site. 2. Install wind breaks or plant trees/vegetation wind breaks at windward side(s) of construction areas. 3. Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph. 4. Limit the area subject to excavation, grading, and other construction activity at any one time. Additional District control measures that may be used if applicable include: 5. Tailgates of trucks shall be sealed. 6. Trucks shall be brushed down before leaving the site.
		Source: BAAQMD CEQA Guidelines; SMP Provision No. 5.1
AQ-4	**Avoid Stockpiling Potentially Odorous Sediments**	Some sediment removal sites will have sediment that is rich in organic matter decaying in an anaerobic condition, which generates assorted malodorous gases, such as reduced sulfur compounds. These sediments will be handled in a manner that avoids impacting sensitive receptors. 1. Avoid stockpiling potentially odorous sediments within 1,000 feet of residential areas or other odor sensitive land uses. 2. Where appropriate, odorous stockpiles will be disposed of at an appropriate landfill.
		Source: SMP Provision No. 5.3

Biological Resources

BI-4	**Minimize Waterway Access Impacts**	Existing access ramps and roads to waterways will be used where possible. If temporary access points are necessary, they will be constructed in a manner that minimizes impacts to waterways: 1. Temporary project access points will be created as close to the work area as possible to minimize running equipment in waterways and will be constructed so as to minimize adverse impacts. 2. Any temporary fill used for access will be removed upon completion of the project. Site topography and geometry will be restored to pre-project conditions to the extent possible.
		Source: SMP Provision No. 2.2
BI-5	**Remove Temporary Fills as Appropriate**	Temporary fills, such as for diversion structures or cofferdams, will be removed upon finishing the work.
		Source: SMP Provision No. 3.13
BI-8	**Migratory Bird Surveys**	Migratory bird surveys will be performed prior to any project-related activity that could pose the potential to affect migratory birds. Inactive bird nests may be removed, with the exception of raptor nests. No birds, nests with eggs, or nests with hatchlings will be disturbed.
		Source: District Special Provisions Guidelines Article 13.15.01
BI-9	**Migratory Bird Nesting Prevention - Vegetation Clearing**	Vegetation can be cleared and maintained to prevent migratory bird nesting. All necessary vegetation clearing will be performed prior to the nesting season, if at all possible. No vegetation will be trimmed back unnecessarily, including trees and/or shrubs growing near the right of way, which overhang onto the work site.
		Source: District Special Provisions Guidelines Article 13.15.01
BI-10	**Migratory Bird Nesting Exclusion Devices**	Nesting exclusion devices may be installed to prevent potential establishment or occurrence of nests in areas where construction activities would occur. All nesting exclusion devices will be maintained throughout the nesting season, or until completion of work in an area makes the devices unnecessary. All exclusion devices will be removed and disposed of when work in the area is complete.
		Source: District Special Provisions Guidelines Article 13.15.01

Cultural Resources

CU-1	**Review of Projects with Native Soil**	A cultural resources specialist will conduct a review and evaluation of those sites that would involve disturbance/excavation of native soil previously undisturbed by contemporary human activities to determine their potential for affecting significant cultural resources. The evaluation of the potential to disturb cultural resources will be based on an initial review of archival information provided by the California Historical Resources System/Northwest Information Center (CHRIS/NWIC) in regard to the project area based on a 0.25 mile search radius. It is recommended that this initial archival review be completed by a professional archaeologist who will be able to view confidential site location data and literature to arrive at a preliminary sensitivity determination. If necessary, a further archival record search and literature review (including a review of the Sacred Lands Inventory of the Native American Heritage Commission); and a field inventory of the project area will be conducted to determine the presence/absence of surface cultural materials associated with either prehistoric or historic occupation. The results, along with any mitigation and/or management recommendations, would be presented in an appropriate report format and include any necessary maps, figures, and correspondence with interested parties. A summary table indicating appropriate management actions (e.g., monitoring during construction, presence/absence testing for subsurface resources; data recovery, etc.) will be developed for each project site reviewed. The management actions will be implemented on-site to avoid significant effects to cultural resources.
		Source: SMP Provision No. 7.2
CU-2	**Archaeological Finds**	Work in areas where archaeological artifacts are found will be restricted or stopped until proper protocols are met. Work at the location of the find will halt immediately within 30 feet of the find. A Consulting Archaeologist will visit the discovery site as soon as practicable for identification and evaluation pursuant to Section 21083.2 of the Public Resources Code and Section 15126.4 of the California Code of Regulations. If the archaeologist determines that the artifact is not significant, construction may resume. If the archaeologist determines that the artifact is significant, the archaeologist will determine if the artifact can be avoided and, if so, will detail avoidance procedures. If the artifact cannot be avoided, the archaeologist will develop within 48 hours an Action Plan which will include provisions to minimize impacts and, if required, a Data Recovery Plan for recovery of artifacts in accordance with Public Resources Code Section 21083.2 and Section 15123.4 of the CEQA Guidelines.
		Source: District Standard Provision No. 6.28

CU-3	**Burial Finds**	Work in areas where any burial site is found will be restricted or stopped until proper protocols are met. Upon discovering any burial site as evidenced by human skeletal remains, the County Coroner will be immediately notified. No further excavation or disturbance within 30 feet of the site or any nearby area reasonably suspected to overlie adjacent remains may be made except as authorized by the County Coroner, California Native American Heritage Commission, and/or the County Coordinator of Indian Affairs.
		Source: District Standard Provision No. 6.26

Hazards & Hazardous Materials

HM-9	**Vehicle and Equipment Cleaning**	Vehicles will be washed only at the approved area in the corporation yard. No washing of vehicles will occur at job sites.
		Source: SMP Provision No. 4.5
HM-10	**Vehicle and Equipment Fueling**	No fueling will be done in a waterway or immediate flood plain, unless equipment stationed in these locations is not readily relocated (i.e., pumps, generators). 1. For stationary equipment that must be fueled on-site, containment will be provided in such a manner that any accidental spill of fuel will not be able to enter the water or contaminate sediments that may come in contact with water. 2. Any equipment that is readily moved out of the waterway will not be fueled in the waterway or immediate flood plain. 3. All fueling done at the job site will provide containment to the degree that any spill will be unable to enter any waterway or damage riparian vegetation.
		Source: SMP Provision No. 6.4
HM-11	**Vehicle and Equipment Maintenance**	No equipment servicing will be done in a stream channel or immediate flood plain, unless equipment stationed in these locations cannot be readily relocated (i.e., pumps, generators). 1. Any equipment that can be readily moved out of the channel will not be serviced in the channel or immediate flood plain. 2. All servicing of equipment done at the job site will provide containment to the degree that any spill will be unable to enter any channel or damage stream vegetation. 3. If emergency repairs are required in the field, only those repairs necessary to move equipment to a more secure location will be done in a channel or flood plain. 4. If emergency repairs are required, containment will be provided equivalent to that done for fueling or servicing.
		Source: SMP Provision No. 6.5
HM-12	**Hazardous Materials Management**	Measures will be implemented to ensure that hazardous materials are properly handled and the quality of water resources is protected by all reasonable means. 1. Prior to entering the work site, all field personnel will know how to respond when toxic materials are discovered. 2. The discharge of any hazardous or non-hazardous waste as defined in Division 2, Subdivision 1, Chapter 2 of the California Code of Regulations will be conducted in accordance with applicable State and federal regulations.
		Source: SMP Provision No. 6.3
HM-13	**Spill Prevention**	Prevent the accidental release of chemicals, fuels, lubricants, and non-storm drainage water.

		1. Field personnel will be appropriately trained in spill prevention, hazardous material control, and clean-up of accidental spills. 2. No fueling, repair, cleaning, maintenance, or vehicle washing will be performed in a creek channel or in areas at the top of a channel bank that may flow into a creek channel.
		Source: SMP Provision No. 6.1
HM-14	**Spill Kit Location**	Spill prevention kits will always be in close proximity when using hazardous materials (e.g., crew trucks and other logical locations). 1. Prior to entering the work site, all field personnel will know the location of spill kits on crew trucks and at other locations within District facilities. 2. All field personnel will be advised of these locations and trained in their appropriate use.
		Source: SMP Provision No. 6.2

Hydrology/Water Quality

WQ-2	**Use of Wheel and Track Mounted Vehicles in Stream Bottoms**	Field personnel will use the appropriate equipment for the job that minimizes disturbance to the stream bottom. Appropriately-tired vehicles, either tracked or wheeled, will be used depending on the situation. Tracked vehicles (bulldozers, loaders) may cause scarification. Wheeled vehicles may cause compaction. Heavy equipment will not operate in the live stream.
		Source: SMP Provision No. 1.6
WQ-3	**Pump/Generator Set Operations and Maintenance**	Pumps and generators will be maintained and operated in a manner that minimizes impacts to water quality and aquatic species. 1. Pumps and generators will be maintained according to manufacturers' specifications to regulate flows to prevent dry-back or washout conditions. 2. Pumps will be operated and monitored to prevent low water conditions, which could pump muddy bottom water, or high water conditions, which creates ponding. 3. Pump intakes will be screened to prevent uptake of fish and other vertebrates. 4. Sufficient back-up pumps and generators will be onsite to replace defective or damaged pumps and generators.
		Source: SMP Provision No. 1.7
WQ-4	**Handle Sediments so as to Minimize Water Quality Impacts**	Sediments will be stored and transported in a manner that minimizes water quality impacts. 1. Wet sediments may be stockpiled outside of a live stream or may be stockpiled within a dewatered stream so water can drain or evaporate before removal. 2. This measure applies to saturated, not damp, sediments and depends upon the availability of a stockpile site. 3. For those stockpiles located outside the channel, water draining from them will not be allowed to flow back into the creek or into local storm drains that enter the creek, unless water quality protection measures recommended by the RWQCB are implemented. 4. Trucks may be lined with an impervious material (e.g. plastic), or the tail gate blocked with dry dirt or hay bales, for example, or trucks may drain excess water by slightly tilting their loads and allowing the water to drain out. 5. Water will not drain directly into channels (outside of the work area) or onto public streets without providing water quality control measures. 6. Streets will be cleared of mud and/or dirt by street sweeping (with a vacuum-powered street sweeper), as necessary, and not by hosing down the street.
		Source: SMP Provision No. 1.8

WQ-5	**Soil Stockpiles**	If soil is to be stockpiled, no run-off will be allowed to flow to a creek.
		Source: SMP Provision No. 1.9
WQ-6	**Stabilized Construction Entrance**	Measures will be implemented to minimize soil from being tracked onto streets near work sites: 1. Methods used to prevent mud from being tracked out of work sites onto roadways include installing a layer of geotextile mat, followed by a 4-inch thick layer of 1 to 3-inch diameter gravel on unsurfaced access roads. 2. Access will be provided as close to the work area as possible, using existing ramps where available and planning work site access so as to minimize disturbance to the water body bed and banks, and the surrounding land uses.
		Source: SMP Provision No. 4.3
WQ-7	**Prevent Erosion Downstream of Bank Protection Sites**	Increased water velocity at work sites may increase erosion downstream. Project design will assess hydraulic effects immediately upstream and downstream of the work area. If the hardscape revetment would cause significant increase in erosion potential, downstream energy dissipation features such as pools or grade control structures will be considered in the design. If the evaluation identifies possible downstream impacts, proactive protection of these areas will be provided. Such measures include, but are not limited to, appropriately keyed-in coir logs, riparian enhancement planting, strategic placement of rock, and flow deflectors.
		SMP Provision No. 1.15
WQ-10	**Concrete Use Near Waterways**	Concrete that has not been cured is alkaline and can increase the pH of the water; fresh concrete will be isolated until it no longer poses a threat to water quality using the following appropriate measures: 1. Wet sacked concrete will be excluded from the wetted channel for a period of ~~two weeks~~ 30 days after installation. During that time, the wet sacked concrete will be kept moist (such as covering with wet carpet) and runoff from the wet sacked concrete will not be allowed to enter a live stream. 2. Poured concrete will be excluded from the wetted channel for a period of ~~two weeks~~ 30 days after it is poured. During that time, the poured concrete will be kept moist, and runoff from the wet concrete will not be allowed to enter a live stream. Commercial sealants (e.g., Deep Seal, Elasto-Deck Reservoir Grade) may be applied to the poured concrete surface where difficulty in excluding water flow for a long period may occur. If a sealant is used, water will be excluded from the site until the sealant is dry. 3. Dry sacked concrete will not be used in any channel. 4. An area outside of the channel and floodplain will be designated to clean out concrete transit vehicles.
		Source: SMP Provision No. 1.11

WQ-12	**Diversion/ Bypass Water at Non-tidal Sites**	When work in a flowing stream is unavoidable, the entire streamflow will be diverted around the work area by a barrier. Construction of the barrier will normally begin in the upstream area and continue in a downstream direction, and the flow will be diverted only when construction of the diversion is completed. The water diversion plan will allow stream flows to gravity flow around or through the work site using temporary culverts or stream flow is pumped around the work site using pumps and screened intake hoses. Coffer dam construction will be adequate to prevent seepage into or from the work area. Coffer dams will be constructed of river run gravel with a fines content that is less than 15%. Fines are defined as material that is able to pass through a #20 sieve. Coffer dams may also be constructed of sheet piles, inflatable dams, or sand bags. Coffer dams will be installed both upstream and downstream not more than 100 feet from the extent of the work areas. In-channel berms that only deflect water to one side of the channel during sediment removal may be constructed of channel material. The enclosure and the supportive material will be removed when the work is completed and the removal will normally proceed from downstream in an upstream direction. Normal flows will be restored to the affected stream immediately upon completion of work at that location: 1. All water will be discharged in a non-erosive manner (e.g., gravel or vegetated bars, on hay bales, on plastic, on concrete, or in storm drains when equipped with filtering devices, etc.). 2. Sumps or basins may also be used to collect water, where appropriate (e.g., in channels with low flows). 3. Where feasible and appropriate, diversion structures will be installed on concrete sections of the channels or constructed of materials specified above. Earth fill will not be used for cofferdams in non-tidal areas. 4. In conjunction with diversion structures, pumps or gravity-fed pipe systems will be used to dewater sites. 5. Depending on the channel configurations, sediment removal may occur where the flows are not bypassed around the work site; as long as during excavation activities, a berm of sediment is left between the work area and stream flows to minimize water quality impacts. 6. Diversions will maintain ambient stream flows below the diversion, and waters discharged below the project site will not be diminished or degraded by the diversion.
		Source: SMP Provision No. 1.3
WQ-14	**Seeding**	For banks that are scraped, an erosion control seed mix will be used. Temporary earthen access roads will be seeded when site and horticultural conditions are suitable.
		Source: SMP Provision No. 2.7
WQ-15	**Groundwater Management**	If high levels of groundwater in a work area are encountered, the water will be pumped out of the work site. If necessary to protect water quality, the water will be directed into specifically constructed infiltration basins, into holding ponds, or onto areas with vegetation to remove

		sediment prior to the water re-entering a receiving water body. Water pumped into vegetated areas will be pumped in a manner that will not create erosion around vegetation.
		Source: SMP Provision No. 1.12
WQ-16	**Avoid Erosion When Restoring Flows**	All temporary diversion structures and the supportive material will be removed no longer than 48 hours after work is completed. The removal will normally proceed from downstream in an upstream direction. Normal flows will be restored to the affected stream immediately upon completion of work at that location. Flows will be restored in a manner that minimizes erosion. 1. When diversion structures are removed, to the extent practicable, the ponded flows will be directed into the low-flow channel within the work site to minimize downstream water quality impacts. 2. Flows will gradually be restored to the channel to avoid a surge of water that would cause erosion or scouring. 3. Bypassed flows may be slowly reintroduced into the dewatered area by leaving a silt barrier in place to allow water to slow and drop sediment to the extent possible.
		Source: SMP Provision No. 1.4
WQ-18	**Site Maintenance and Cleanup**	The work site, areas adjacent to the work site, and access roads will be maintained in an orderly condition, free and clear from debris and discarded materials. Personnel will not sweep, grade, or flush surplus materials, rubbish, debris, or dust into storm drains or waterways. Upon completion of work, all building materials, debris, unused materials, concrete forms, and other construction-related materials will be removed from the work site.
		Source: District Special Provisions Guidelines Article 15.09
WQ-40	**Water Pollution Control**	Oily, greasy, or sediment laden substances or other material that originate from the project operations and may degrade the quality of surface water or adversely affect aquatic life, fish, or wildlife will not be allowed to enter, or be placed where they may later enter, any waterway. The project will not increase the turbidity of any watercourse flowing past the construction site by taking all necessary precautions to limit the increase in turbidity as follows: 1. where natural turbidity is between 0 and 50 Nephelometric Turbidity Units (NTU), increases will not exceed 5 percent; 2. where natural turbidity is greater than 50 NTU, increases will not exceed 10 percent; 3. where the receiving water body is a dry creek bed or storm drain, waters in excess of 50 NTU will not be discharged from the project. Water turbidity changes will be monitored. The discharge water measurements will be made at the point where the discharge water exits the water control system for tidal sites and 100 feet downstream of the discharge point for non-tidal sites. Natural watercourse turbidity measurements will be made in the receiving water 100 feet upstream of the discharge site. Natural watercourse turbidity measurements will be

		made prior to initiation of project discharges, preferably at least 2 days prior to commencement of operations.
		Source: District Special Provisions Guidelines Article 15.01
WQ-41	**Stormwater Pollution Prevention Plan**	A Stormwater Pollution Prevention Plan (SWPPP) will be prepared and submitted in compliance with the requirements of the State Water Resources Control Board National Pollutant Discharge Elimination System General Permit for Discharges of Stormwater Associated with Construction Activity (NPDES Permit No. CAS000002, Order No. 99-08-DWQ). Suitable stormwater BMPs will be implemented consistent with California Stormwater Quality Association "Stormwater Best Management Practices Handbook," Construction 2003, which is available at www.cabmphandbooks.com.
		Source: District Special Provisions Guidelines Article 16.01
WQ-42	**Nuisance Water Management**	If high levels of nuisance water or incidental flows enter the work area, the water will be pumped out of the work site. If necessary to protect water quality, the water will be directed into specifically constructed infiltration basins, into holding ponds, or onto areas with vegetation to remove sediment prior to the water re-entering a receiving water body. Water pumped into vegetated areas will be pumped in a manner that will not create erosion around vegetation.

Noise

NO-1	**Noise Pollution**	Noise produced by construction activities will not exceed the applicable local noise ordinance standards.
		Source: District Special Provisions Guidelines Article 15.02.01
NO-2	**Residential Noise Management**	The District will implement practices that minimize disturbances to residential neighborhoods surrounding work sites. 1. In general, work will be conducted during normal working hours. Extending weekday hours and working weekends may be necessary to complete some projects. 2. Internal combustion engines will be equipped with adequate mufflers. 3. Excessive idling of vehicles will be prohibited. 4. All construction equipment will be equipped with manufacture's standard noise control devices. 5. The arrival and departure of trucks hauling material will be limited to the hours of construction. 6. The use of jake brakes is prohibited in residential areas.
		Source: SMP Provision No. 4.2

Transportation/Traffic

TR-1	**Public Safety Measures**	Fences, barriers, lights, flagging, guards, and signs will be installed as determined appropriate by the public agency having jurisdiction, to give adequate warning to the public of the construction and of any dangerous condition to be encountered as a result thereof.
		Source: District Standard Provision No. 6.09

Utilities/Service Systems

UT-1	**Sanitary/Septic Waste Management**	Temporary sanitary facilities will be located on jobs that last multiple days. All temporary sanitary facilities will be placed outside of the creek channel and flood plain and removed when no longer necessary.
		Source: SMP Provision No. 4.4
UT-2	**Protection of existing utilities**	An emergency release plan will be prepared to identify actions to prevent and respond to an accidental release of sanitary sewer water if a break were to occur.

APPENDIX E

Biological Resources Mitigation Measures

Mitigation Measure Name and Description	Timing	Implementation Responsibility	Fiscal Responsibility	Monitoring Responsibility
BIO-1: Replant riparian habitat - Plant ~~0.96~~ 0.76 acres of appropriate native riparian trees and shrubs on-site. Bank protection plantings and trees will be replanted with locally collected seeds or seedlings grown from locally collected seeds. Riparian plantings shall be in accordance with the District's revegetation guidelines. Additional trees will be planted behind (south of) the row of trees categorized as "tentatively recommended for preservation" on property APN 175-25-068 to mitigate for the possible loss of these trees in the future as a result of construction. Trees will be monitored annually for ten years or until the success criteria outlined in mitigation measure BIO-2 and the Mitigation, Monitoring Plan are met.	Immediately following construction	SCVWD	SCVWD	SCVWD
BIO-2: Success criteria – Trees will be monitored annually for ten years or until the success criteria are met. Success criteria will include survival, health and vigor, and percent cover.	Ten years following revegetation	SCVWD	SCVWD	SCVWD
BIO-3: Monitor tentatively preserved trees – An ISA certified arborist shall monitor trees along APN 175-25-068 during construction to determine whether to preserve or remove trees when grading cuts are made. Trees removed from this area will be replanted as described in BIO-1 and BIO-2.	During construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
BIO-4: **Pre-construction meeting** - Prior to start of construction, The District's engineer, the Contractor, and the certified arborist shall meet to: • determine the location of tree protection fencing, • review planned work procedures around trees such as demolition of existing hardscape and excavation of the creek channel, • review the need for certified arborist approval	Prior to start of construction	SCVWD	SCVWD	SCVWD/ Contractor/ Arborist

for any adjustment of the tree protection fencing and/or need to work within the fenced areas, • identify location where specialized treatments are required, and review the requirements for clearance pruning based on contractor's equipment.				
BIO-5: Tree removal - Tree removal shall be performed by a tree care contractor possessing a State of California Contractor's License for Tree Service (C61-D49). All tree removal shall be supervised by an ISA certified arborist. All trees to be removed will be identified by flagging or paint.	During construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
BIO-6: Tree pruning - Pruning should be kept to the minimum necessary for safety, improving long-term tree structure, and providing clearance for construction equipment. All pruning shall be performed by a tree care contractor possessing a State of California Contractor's License for Tree Service (C61-D49). All pruning shall be supervised by an ISA certified arborist. All pruning shall be in accordance with the Tree Pruning Guidelines (International Society of Arboriculture) and adhere to the most recent editions of the American National Standard for Tree Care Operations (ANSI Z133.1) and Pruning (A300).	During construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
BIO-7: Tree Protection Zone - A tree protection zone will be established for all trees to be preserved and will be identified using either the dripline method or trunk diameter method, whichever is greater, as defined in the Tree Survey and Preservation Plan. The tree protection zone will be fenced prior to beginning of construction. No grading, construction, trenching, demolition, vegetation removal, or other work will be allowed in this area. No equipment, debris, or	Prior to start of construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor

materials will be dumped or stored within the zone. Any work that needs to occur within the zone will be directly supervised by an ISA certified arborist. Any modifications to the tree protection zone must be approved and monitored by the certified arborist.				
BIO-8: Pre-construction orientation - A pre-construction meeting will be conducted by an ISA certified arborist to explain the tree protection requirements to all construction supervisors and inspectors. All on-site personnel shall be oriented on tree preservation measures and rules.	Prior to start of construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
BIO-9: Tree protection guidelines during construction – Specific construction procedures will be employed during project construction. These procedures include: • Existing hardscape must be demolished without damaging tree roots. • Trees to be preserved that are located at or near the grading line, must be root-pruned prior to excavation of the new channel. Once the edge of the channel has been staked, roots along the edge must be pruned during excavation. As roots are encountered, they are to be pruned at the edge of excavation under supervision of an ISA certified arborist. • Root pruning required for construction purposes shall receive prior approval of, and be supervised by the certified arborist. Any roots greater than 1 inch in diameter that are injured (torn, broken, wounded, desiccated, etc.) during construction must be pruned to a point 1 inch behind the edge of the damage. • Supplemental irrigation is required whenever tree roots are uncovered or severed by trenching	During project construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor

or grading. Open trenches with exposed roots require a two-layer minimum of damp burlap or other acceptable covering at all times. Exposed roots should be kept moist until they can be buried. An ISA certified arborist will determine the amount of supplemental watering required based on evaluation of soil moisture and weather conditions. Any damage to existing irrigation systems must be reported to the Project Superintendent and District Engineer. • Injury to any tree during construction, including broken branches, must be evaluated as soon as possible by the certified arborist so that appropriate treatment(s) can be applied.				
BIO-9.1: Monitor freshwater marsh – The project reach will be monitored by a qualified biologist annually for five years, or less if vegetation is established, after the completion of construction to determine if freshwater marsh is re-colonizing the site. If, after five years, freshwater marsh vegetation does not exist within the project reach, the site will be seeded with seeds collected from Adobe Creek freshwater marsh plant species."	Five years following revegetation	SCVWD	SCVWD	SCVWD
BIO-10: Remove trees prior to nesting season – Trees that will be removed during construction will be topped (roots to remain in place) prior to the nesting season (January 15th) before construction to avoid or minimize the loss of individuals or active bird nests.	Prior to nesting season	SCVWD	SCVWD	SCVWD
BIO-11: Install exclusion netting under bridge – Netting will be installed under W. Edith Avenue Bridge prior to the nesting season to prevent birds from nesting under the bridge. If netting is not completed by the start of nesting season, bird nest surveys will be conducted prior to netting.	Prior to nesting season	SCVWD	SCVWD	SCVWD

BIO-12: Pre-construction surveys for nesting birds – Pre-construction surveys for active nest sites will be conducted by a qualified biologist no more than 14 days prior to tree removal and project construction.	14 days prior to tree removal and start of construction	SCVWD	SCVWD	SCVWD
BIO-13: Pre-construction surveys for raptor nests - Pre-construction surveys for raptor nests will be conducted no more than 14 days prior to tree removal and project construction to avoid loss of individuals or nest sites. The presence of active or inactive raptor nests within the project area at anytime during construction will require consultation with the California Department of Fish and Game and U.S. Fish and Wildlife Service prior to conducting work in the area. A protective buffer zone shall be erected and remain in place until appropriate protection measures are agreed upon through agency consultation.	14 days prior to tree removal and start of construction	SCVWD	SCVWD	SCVWD
BIO-14: Construction monitoring for active nests - A biologist shall be on site during tree removal operations. If active nests are present during construction and complete avoidance is not possible, appropriate non-disturbance buffers should be erected until nesting is complete.	During tree removal	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
BIO-15: Pre-construction surveys for roosting bats - Pre-construction surveys for roosting bats shall be conducted no more than 14 days prior to tree removal and project construction to avoid loss of individuals or active roost sites. If species are present within the project area and avoidance is	14 days prior to tree removal and start of construction	SCVWD	SCVWD	SCVWD

not possible, appropriate non-disturbance buffers should be erected until bats leave the roost at dusk, thereby minimizing impacts to these species. A bat specialist will be consulted to identify the appropriate protection measures.				
BIO-16: Pre-construction surveys for San Francisco dusky-footed woodrat - Pre-construction surveys for San Francisco dusky-footed woodrat shall be conducted no more than 7 days prior to tree removal and project construction to avoid loss of individuals or active nest sites. If species are present within the project area and avoidance is not possible, the California Department of Fish and Game will be consulted prior to conducting work in the area. Exclusionary fencing shall be erected at a distance of 50 feet around the nest and remain in place until appropriate protection measures are agreed upon through agency consultation ~~appropriate non-disturbance buffers should be erected around the nest site by a qualified biologist~~.	7 days prior to tree removal and start of construction	SCVWD	SCVWD	SCVWD
BIO-17: Pre-construction surveys for California red-legged frog – Pre-construction surveys for California red-legged frog will be conducted by a qualified biologist no more than 7 days prior to tree removal and project construction to avoid loss of individuals. If observed, a qualified biologist will relocate the frog(s) to an appropriate location upstream of the project site. Relocation will be consistent with applicable codes and permit conditions.	7 days prior to tree removal and start of construction	SCVWD	SCVWD	SCVWD
BIO-18: Restore staging and access areas – The staging and access areas will be restored to their pre-construction condition and hydroseeded with a native plant mix immediately following construction.	Immediately following construction	SCVWD	SCVWD	SCVWD

APPENDIX F

Biological Resources Report

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FINAL

BIOLOGICAL RESOURCES REPORT, ADOBE CREEK UPPER REACH 5, SANTA CLARA VALLEY WATER DISTRICT, CITY OF LOS ALTOS AND TOWN OF LOS ALTOS HILLS, SANTA CLARA COUNTY, CALIFORNIA

The information provided in this document is intended solely for the use and benefit of EDAW, and its client, the Santa Clara Valley Water District.
No other person or entity shall be entitled to rely on the services, opinions, recommendations, plans or specifications provided herein, without the express written consent of Sycamore Associates LLC, 2099 Mt. Diablo Blvd., Suite 204, Walnut Creek, CA 94596.

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SUMMARY OF FINDINGS

Sycamore Associates LLC (Sycamore) was contracted by EDAW to conduct a reconnaissance-level biological assessment for the approximate 1,100 linear foot Adobe Creek Upper Reach 5 located on the boundary between the city of Los Altos and the Town of Los Altos Hills, from immediately upstream of the West Edith Avenue bridge to upstream of Foothill Expressway. The proposed Adobe Creek Upper Reach 5 Restoration Project is intended to restore the creek and improve the creek ecosystem.

Vegetation within the study area is primarily dominated by non-native ornamental and horticultural plantings typical of residential yards in the region. Open areas and the understories of planted trees and shrubs generally support ruderal, weedy vegetation characteristic of highly disturbed areas. Occasional native trees and shrubs are found scattered along the upper banks of the creek, many of them overhanging the stream channel. These are considered to be remnants of native riparian woodland. Four plant communities were identified, including:

- Non-Native Riparian Vegetation
- Ruderal Landscape/Hardscape
- Remnant Central Coast Live Oak Riparian Forest
- Coastal and Valley Freshwater Marsh

Based on a literature review and a familiarity with the fauna within the project region, a total of 59 special-status wildlife species were considered to have at least some potential to occur within the region or have been recorded historically in the project vicinity. Focused wildlife surveys or botanical surveys were not conducted as part of this reconnaissance-level site evaluation. The methods employed would not necessarily rule out some special-status species; however, based on the surveys conducted to date and an assessment of habitats on site, certain special-status plant and wildlife species are not expected to occur or can be entirely ruled out.

Based on a literature review and a familiarity with the flora within the project region, a total of 42 special-status plant species were considered to have at least some potential to occur within the region or have been recorded historically in the project vicinity (Table 1). Of these, none are considered to have any potential to occur within the study area based on a lack of suitable habitat, or the fact that they were absent during appropriately timed botanical surveys when they would have been detectable.

Following initial surveys of the study area during October and November 2005, three plant species, including Oakland star-tulip (*Calochortus umbellatus*), California Native Plant Society List 4; Santa Clara red ribbons (*Clarkia concinna* ssp. *automixa*), California Native Plant Society List 4; and Michael's rein orchid (*Piperia michaelii*), California Native Plant Society List 4, were considered to have at least a low potential to occur on site based on the presence of marginally suitable habitat. Focused botanical surveys were conducted during April and June 2006 and none of these species were detected on site.

California red-legged frog (*Rana (=aurora draytonii) draytonii*), federally-listed as Threatened and a California Species of Special Concern, have a very low potential to occur within the project area. Pre-construction surveys are recommended to minimize potential of direct impacts to California red-legged frog. Other special-status wildlife species with potential to occur within the project area include nesting birds, roosting bats, and San Francisco dusky footed woodrat (*Neotoma fuscipes annectens*), a Federal Species of Concern and a California Species of Special Concern. Pre-construction surveys for potentially nesting birds, roosting bats, and dusky footed woodrat are recommended to avoid loss of individuals or active nest/roost sites. If these species are present within the project area and complete avoidance is not possible, appropriate non-disturbance buffers should be erected until nesting is complete and/or bats leave the roost at dusk, thereby minimizing direct impacts to these species.

The proposed project has the potential to both permanently and temporarily impact all four plant communities found within Adobe Creek Upper Reach 5 including: non-native riparian vegetation, ruderal landscape/hardscape, remnant central coast live oak riparian forest, and coastal and valley freshwater marsh. Additionally, the project would result in impacts to aquatic habitat in the form of seasonally wet, unvegetated waters of the U.S. Short term temporary construction impacts to the aquatic environment will be minimal if the streambed is dry during the construction period. Any dewatering needed may result in temporary loss of aquatic habitat in the dewatered areas. Aquatic organisms can be removed from construction areas prior to dewatering and relocated to unaffected parts of the stream, and this is typically required for projects involving listed or sensitive species. There are no listed or sensitive fish species expected in the project area and fish species present are widely distributed in the region. Most aquatic organisms are expected to re-colonize affected areas within a relatively short time following construction activities as long as post-project habitat conditions are suitable. Potential impacts from this activity include inability to relocate certain types of organisms, incomplete removal of other organisms, losses due to handling, overcrowding in relocation areas, and spread of disease. Dewatering of work areas will avoid impacts related to sediment mobilization and deposition.

Removal of concrete, shotcrete, sacked concrete, concrete rubble, and wood retaining walls potentially benefits aquatic habitat by restoring natural geomorphic process in the stream channel. Removal of an existing grade control structure and installation of low rock weirs will remove a barrier to fish migration. If properly constructed, the rock weirs will result in formation of deep pools and graded substrate with gravel accumulations at the tail of the pools. Creation of such pools potentially benefits native fish populations, particularly if integrated with appropriate riparian plantings.

1.0 INTRODUCTION

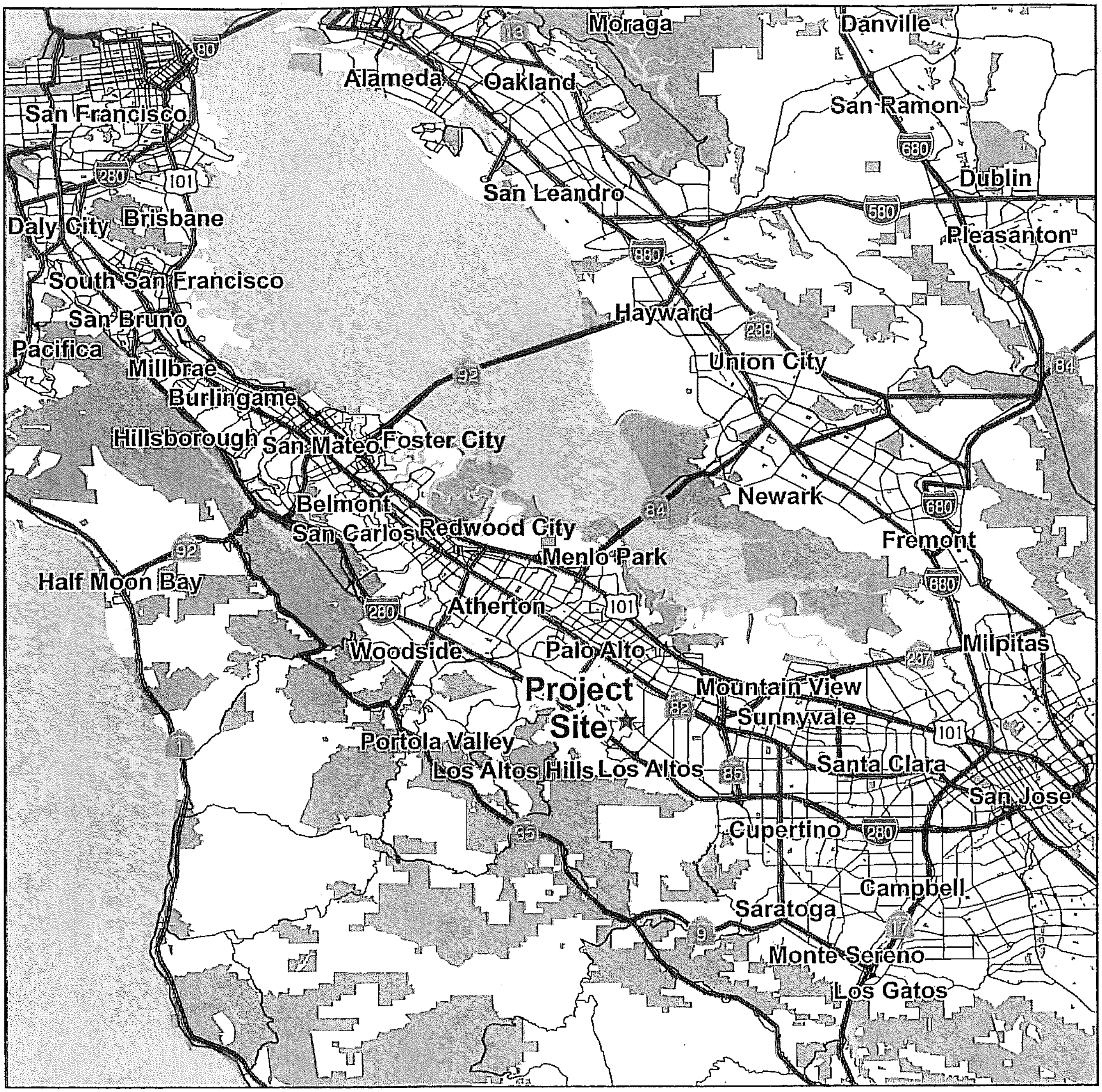
Sycamore Associates LLC (Sycamore) was contracted by EDAW, on behalf of the Santa Clara Valley Water District, to conduct a reconnaissance-level biological assessment and impact analysis for the approximate 1,100 linear foot Adobe Creek Upper Reach 5 located on the boundary between the city of Los Altos and the Town of Los Altos Hills, from immediately upstream the bridge at West Edith Avenue to upstream of Foothill Expressway (Figure 1. Regional Location of the Project Site). Adobe Creek Reach 5 (hereafter referred to as the study area) is located in Section 30, Township 6 South, Range 2 West, as depicted on the Mountain View U.S. Geological Survey 7.5-minute topographic quadrangle (Figure 2A. Vicinity of the Project Site). Elevations within the proposed project range from 145 to 175 feet above mean sea level.

1.1 Understanding of the Proposed Project

The study area encompasses a stretch of Adobe Creek that runs from the West Edith Avenue Bridge to approximately 1,100 linear feet downstream (Figure 2B. Project Site Aerial Photo). The proposed Adobe Creek Upper Reach 5 Restoration Project is designed to reduce the extent and quantity of overland flooding on the adjacent properties, as well as address the severe erosion problems inherent to the reach. Narrow channel cross sections found within this stretch of the creek have resulted in limited capacity (well below one percent) to handle FEMA floods. The present design represents the preferred alternative, and is scaled down from an earlier project design (see Appendix A).

Residents of the City of Los Altos and Town of Los Altos Hills created the Adobe Creek Watershed Group (ACWG) to address issues of flooding, erosion, and habitat loss. The Adobe Creek Upper Reach 5 Collaborative (Collaborative) was formed in 2003 to develop a creek restoration project that would be acceptable to all Collaborative members. The Collaborative includes the ACWG, Santa Clara Valley Water District, City of Los Altos, Town of Los Altos Hills, state and federal resource agencies, as well as other concerned creekside residents. As a result of stakeholder participation in the Collaborative, a preferred project alternative was developed and adopted for the flood protection component of the proposed project.

The proposed Adobe Creek Upper Reach 5 Restoration Project is intended to improve channel conveyance capacity, while continuing to allow for overland flows during flood events. Project design elements include widening of a portion of the creek channel, removal of accumulated sediment from underneath West Edith Avenue Bridge, localized repair of channel erosion and bank stabilization, removal of some existing concrete channel protection and reconstruction using minimal hardscape, and the removal of an existing concrete drop structure and replacement with a step-pool system using rock weir grade control structures intended to improve potential fish passage. The proposed project would modify the channel to create a natural stable geomorphic channel following a right of way agreed upon by the Collaborative, including physical modifications to the channel alignment and stream banks. Project improvements, in addition to reducing flooding and erosion, are anticipated to provide environmental benefits to the creek ecosystem.



Legend

★ Location of the Project Site

Freeways & Highways

Major Surface Roads

Water

Open Space

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1:380,160 11/17/05
1 inch equals 6 miles

0 3 6 12 Miles

N

Figure 1

Regional Location of the Project Site

Adobe Creek Upper Reach 5 Project

Santa Clara County Water District

Los Altos & Los Altos Hills, Santa Clara County, California

Sycamore Associates LLC
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www.syclle.com

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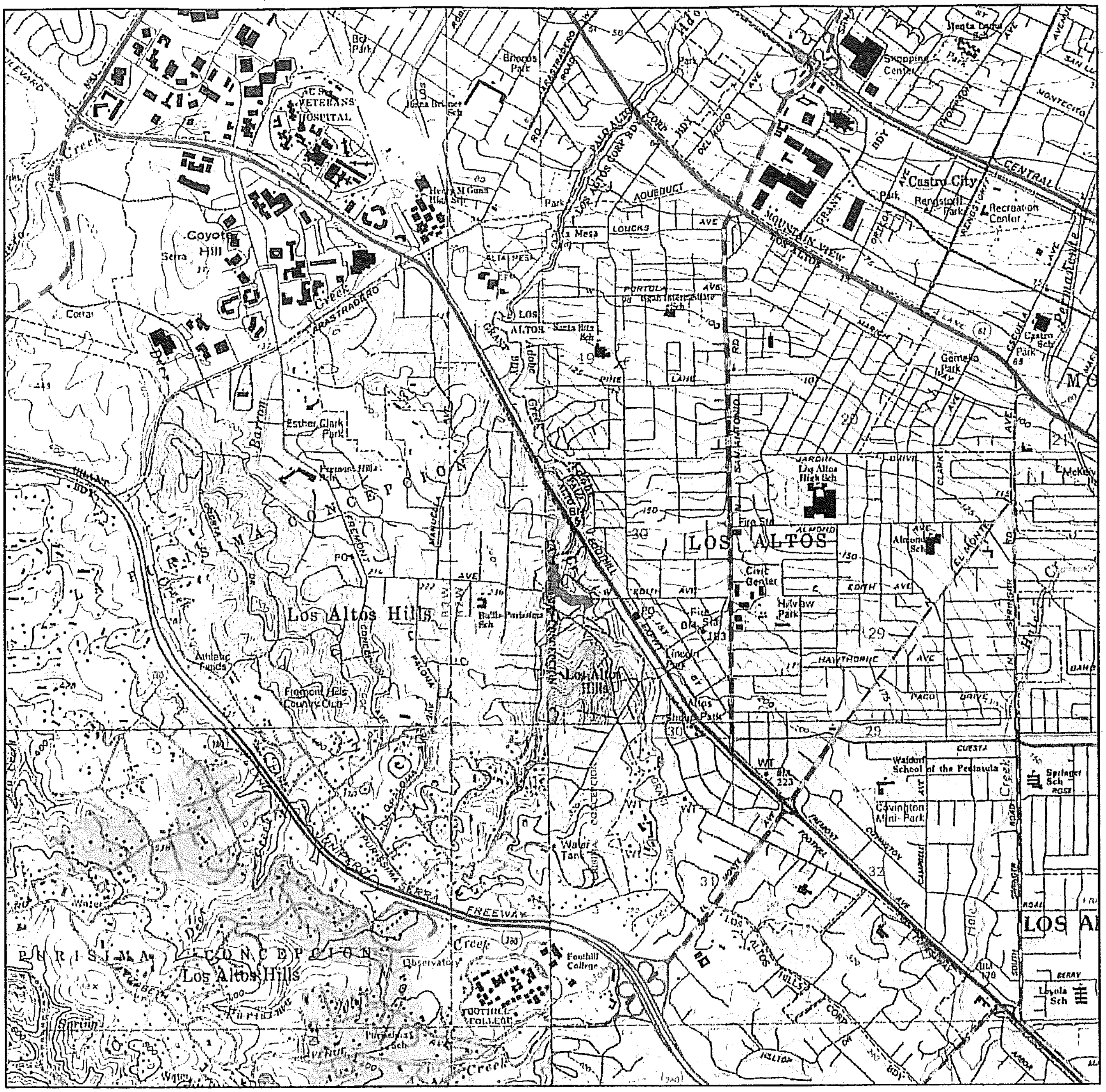

Legend

▭ Project Site

Figure 2A

Vicinity of the Project Site

Adobe Creek Upper Reach 5 Project

Santa Clara County Water District

Los Altos & Los Altos Hills, Santa Clara County, California

1:31,680 11/11/05

1 inch equals 0.5 miles

N

0 0.5 1 Miles

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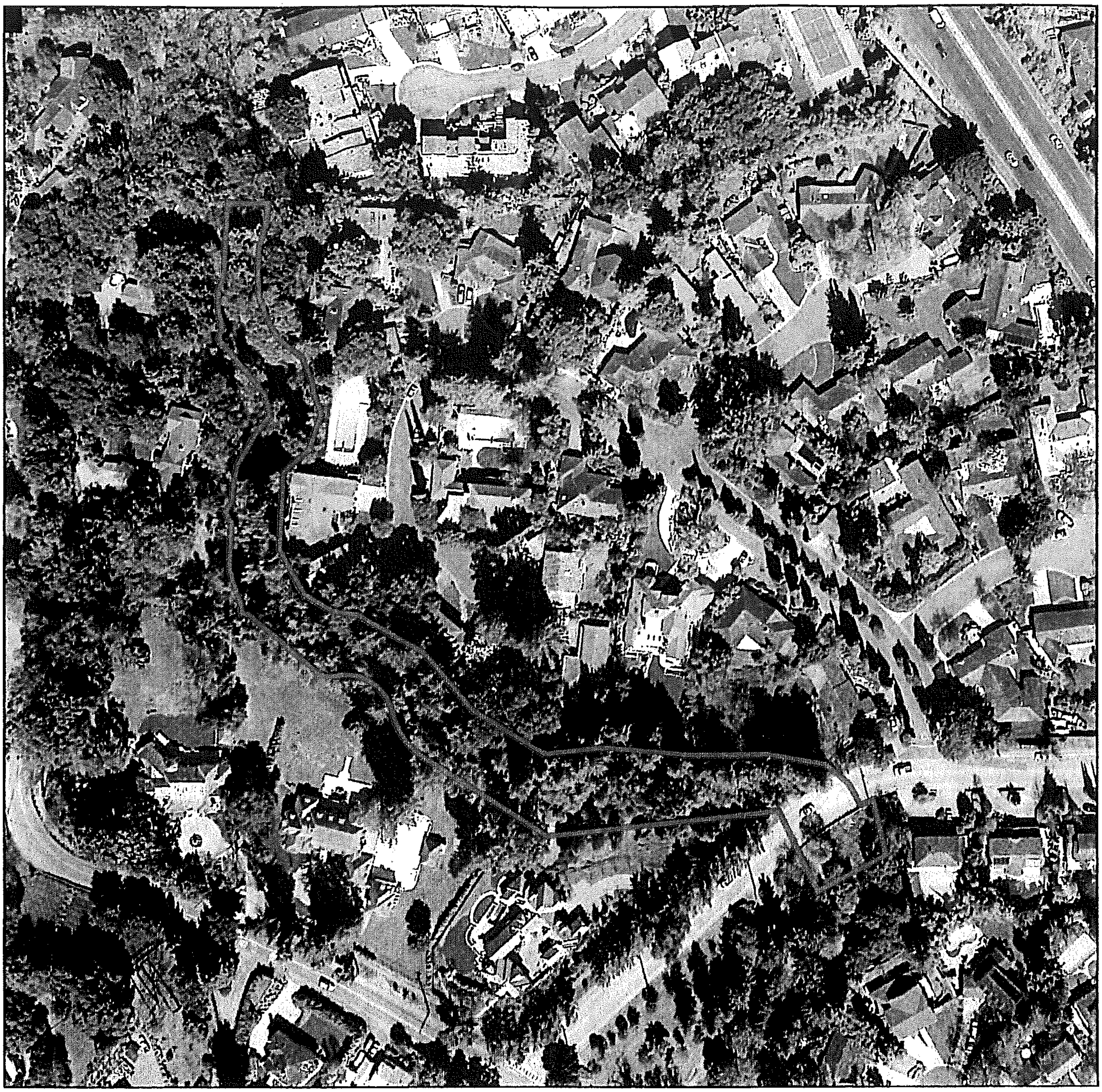

Legend

▭ Project Site

Figure 2B

Project Site Aerial Photo

Adobe Creek Upper Reach 5 Project

Santa Clara County Water District

Los Altos & Los Altos Hills, Santa Clara County, California

1:1,800 1/26/07

1 inch equals 150 feet

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Access to the creek by construction equipment would be from West Edith Avenue and from the yards of residences at 25617 West Fremont Road and 14116 Seven Acres Lane. Staging would take place in Edith Park and in the backyard of the Rogez property (see Figure 3 Plant Communities).

2.0 METHODS AND SURVEY LIMITATIONS

2.1 Literature Review

Prior to conducting fieldwork, a search was made of the California Natural Diversity Data Base for the Mountain View quadrangle and eight adjacent quadrangles (CDFG 2005a), and a Report on Federal Endangered and Threatened Species that occur in or may be affected by the project in the U.S. Geological Survey 7.5 minute Mountain View quadrangle (USFWS 2005) was generated. Also reviewed were biological studies for other properties in the vicinity of the study area, and documents relating to the project available on the Adobe Creek Watershed Group's website. In 1989 The Habitat Restoration Group conducted a biological study of Adobe Creek (Habitat Restoration Group 1989).

Information on special-status plant species was compiled through a review of the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Plants of California* (CNPS 2001), the California Department of Fish and Game's (CDFG) *State and Federally Listed Endangered, Threatened, and Rare Plants of California* (CDFG 2005e) and *Special Vascular Plants, Bryophytes, and Lichens List* (CDFG 2005c), and the U.S. Fish and Wildlife Service's (USFWS) *Endangered and Threatened Wildlife and Plants; Proposed Rule* (USFWS 1996, 1997, 2001, 2004b).

2.2 Field Reconnaissance

Sycamore biologists Christopher Thayer and Veronica Wunderlich conducted a reconnaissance-level site assessment of the Santa Clara Valley Water District easement through several contiguous private properties making up Upper Reach 5 of Adobe Creek on October 24, 2005. The entire study area was surveyed on foot and all distinct habitat types were visited and identified. All plant and wildlife species observed or detected by sign were recorded. Sycamore biologist Christopher Thayer conducted additional fieldwork on October 18, 2005. The site was revisited on October 25 and fieldwork completed on November 16, 2005. Certified arborist Erin McDermott and biologist Dana Terry conducted a tree survey along the approximately 1,100-foot stretch of Adobe Creek Upper Reach 5 on October 20, 21, and 24, 2005. Based on the findings of the initial site surveys, there was considered to be at least a low potential for three sensitive plant species, including Oakland star tulip (*Calochortus umbellatus*), Michael's rein orchid (*Piperia michaelii*), and Santa Clara red-ribbons (*Clarkia concinna* ssp. *automixa*) to be present. Mr. Thayer conducted appropriately timed focused botanical surveys for these species on April 14 and June 8, 2006.

Hagar Environmental Science (HES) biologists studied Adobe Creek on November 8, 2005 between the West Edith Avenue Bridge and the Foothill Expressway box culvert. The purpose of the HES site visit was to describe existing aquatic habitat conditions, assess

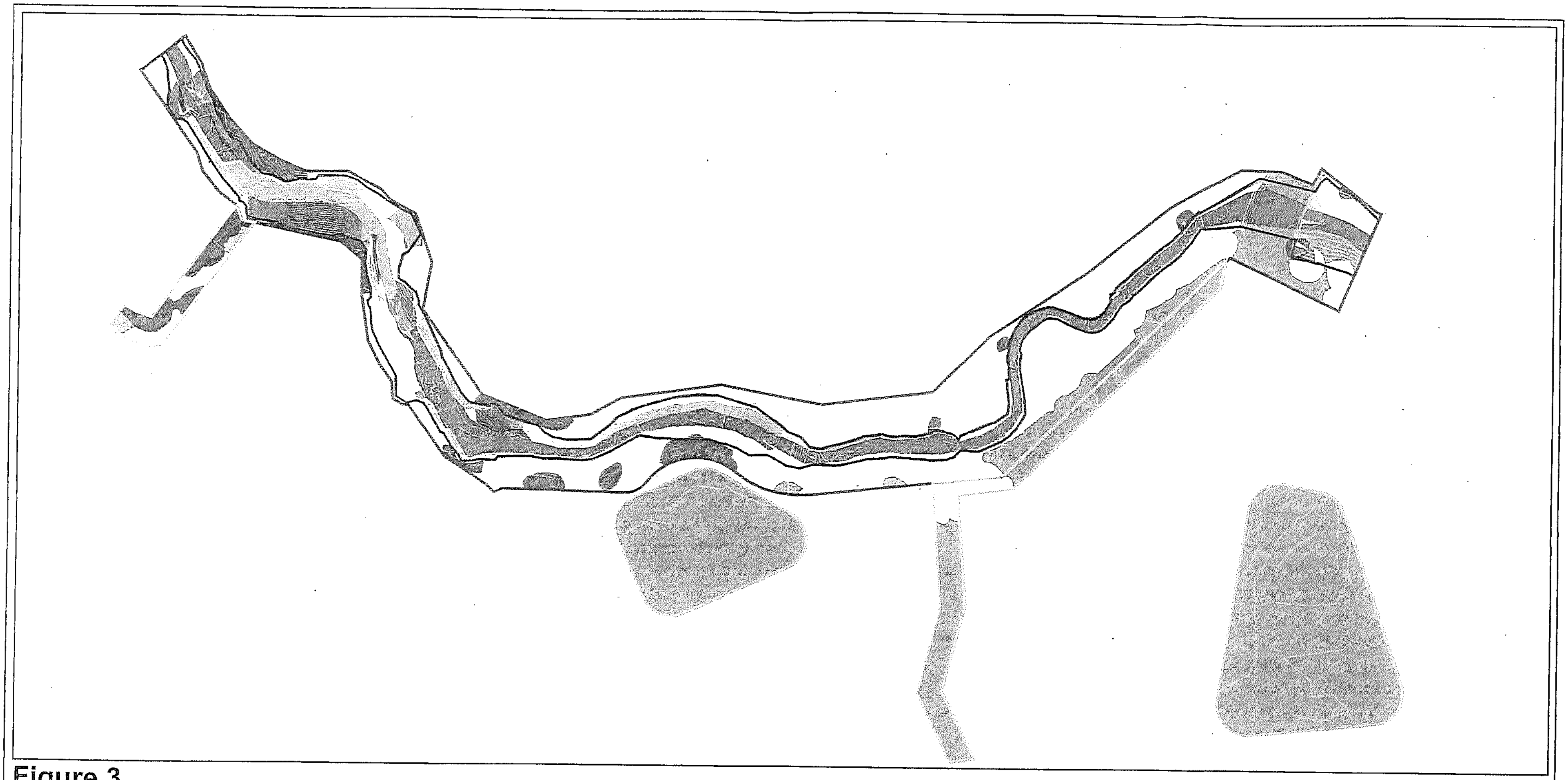

Figure 3

Plant Communities

Adobe Creek Upper Reach 5

Santa Clara Valley Water District

Los Altos & Los Altos Hills, Santa Clara County, California
Revised 1/24/07

This document provided for the sole use of the Santa Clara Valley Water District. Topographic contours provided by the Santa Clara Valley Water District. Biological conditions as noted during field reconnaissance (2005-2007). Conditions may vary and may be revised at a later date. This document is not intended for detailed design work.

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Legend

- Unvegetated Waters (Aquatic Habitat)
- Freshwater Marsh
- Top of Bank
- Coast Live Oak Riparian Forest
- Non-Native Riparian Canopy
- Non-Native Riparian Canopy with Hardscape Understory
- Study Boundary
- Staging Area & Access Points
- Ruderal Landscape/Hardscape

1 inch equals 75 feet 1:900
0 75 150
Feet

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potential for fish species presence, and to identify potential impacts associated with project construction and post-project alteration to the streambed and riparian habitat.

2.2.1 Resource Mapping

All biological resources noted during the reconnaissance-level site assessment were mapped by hand in the field, and then digitized onto appropriate base maps plotted in the State Plane Coordinate System using ARC GIS 9.0. Hardscape was digitized by hand from CAD files.

2.2.2 Flora

All plant species observed during the reconnaissance-level site assessment and during focused botanical surveys were recorded and locations of sensitive vegetation communities noted. A list of vascular plants detected on the site is presented in Appendix B.

2.2.3 Fauna

All wildlife species observed during the reconnaissance-level site visit were recorded and all wildlife habitats noted. A complete listing of species observed on site is presented in Appendix C.

2.2.4 Sensitive Biological Resources

All sensitive biological resources identified during the reconnaissance-level site assessment were recorded and mapped, and are discussed in further detail in Section 4.3.

2.3 Survey Limitations

This survey was intended as an initial evaluation of on site habitat types and an assessment of the potential for occurrence of special-status plant and wildlife species. Focused wildlife surveys were not conducted as part of this reconnaissance-level site evaluation. The methods employed would not necessarily rule out some special-status species; however, based on the surveys conducted to date and an assessment of habitats on site, certain special-status plant and wildlife species are not expected to occur or can be entirely ruled out. Based on the findings of the reconnaissance-level site surveys, focused botanical surveys were conducted during April and June 2006. A formal jurisdictional wetland delineation and tree survey assessment were conducted and are included in separate reports (Sycamore 2006, 2007).

Nomenclature used throughout this report conforms to Hickman (1993) for plants except where noted. Nomenclature for special-status plant species conforms to CDFG (2005c, e) and CNPS (2001, 2005); nomenclature for special-status wildlife conforms to CDFG (2005b, d); nomenclature for special-status natural communities conforms to Holland (1986), and to CDFG (2003), where appropriate. Nomenclature for wildlife conforms to Sibley (2003) for birds, Stebbins (2003) for reptiles and amphibians, and Jameson Jr. and Peeters (2004) for mammals.

3.0 EXISTING CONDITIONS

The headwaters of Adobe Creek originate in the northeasterly slopes of the Santa Cruz Mountains at an elevation of approximately 2,600 feet. The watershed drained by Adobe Creek measures roughly ten square miles, three-quarters of which are in mountainous terrain, and the balance consisting of valley floor. The creek, which flows for 14.7 miles, passes through unincorporated Santa Clara County, the Town of Los Altos Hills and the cities of Los Altos, Mountain View and Palo Alto before entering the Palo Alto Flood Basin (Watershed Assessment Subgroup 2003; Leidy *et al.* 2005).

3.1 Site Description

From the project starting point at the bridge over the creek at West Edith Avenue, Upper Reach 5 of Adobe Creek is currently surrounded by residential neighborhoods. The creek channel itself is characterized by hardscape surfaces such as gunite, concrete walls, sacked concrete, riprap, and wooden wall structures. Several outfalls are scattered throughout the reach, including the Robleda Storm Drain, and there are several drop structures along the reach including one that is an approximately six foot drop of 1:1 sloped concrete with a ten foot long apron, followed by two one foot drops. An additional approximately four-foot drop occurs further downstream. Much of the channel is constricted, and there appears to be significant sediment deposition, as well as areas of accumulated debris within the channel. During the site visit, the creek was not actively flowing above the first drop structure. There were, however, several small, shallow pools of water and some active flow originating below the six-foot drop structure.

Potential staging and access points to Upper Reach 5 of Adobe Creek include developed areas supporting mostly ruderal or planted ornamental landscape vegetation, with a lesser amount of native and non-native riparian canopy (Figure 3 Plant Communities).

4.0 RESULTS

4.1 Botany - Plant Communities and Floral Diversity

Four plant communities were identified and mapped within the study area (Figure 3 Plant Communities):

- Non-Native Riparian Vegetation
- Ruderal Landscape/Hardscape
- Remnant Central Coast Live Oak Riparian Forest
- Coastal and Valley Freshwater Marsh

Vegetation communities as found on site are described in more detail below. The locations and extent of plant communities on site are presented in Figure 3. Note that aquatic habitat, mapped as unvegetated waters of the U.S., is not a plant community but is discussed later in the context of sensitive habitats under Section 4.3.

4.1.1 Non-Native Riparian Vegetation

A majority of the study area outside of the channel of Adobe Creek is dominated by ornamental plantings of horticultural trees and shrubs characteristic of residential yards in the neighborhood. Typical landscape trees present on site include olive (*Olea europaea*), Tasmanian blue gum (*Eucalyptus globulus*), red ironbark (*Eucalyptus sideroxylon*), Canary Island date palm (*Phoenix canariensis*), Lombardy poplar (*Populus nigra*), glossy privet (*Ligustrum lucidum*), blackwood acacia (*Acacia melanoxylon*), cork oak (*Quercus suber*), English walnut (*Juglans regia*), Northern California black walnut (*Juglans californica* var. *hindsii*), coast redwood (*Sequoia sempervirens*), Monterey pine (*Pinus radiata*), and incense cedar (*Calocedrus decurrens*), among others. Planted ornamental herbs and shrubs on site include English ivy (*Hedera helix*), periwinkle (*Vinca major*), bamboo (*Bambusa* sp.), juniper (*Juniperus* sp.), trumpet creeper (*Bignonia* sp.), and cotoneaster (*Cotoneaster pannosa*), among others. Several native shrubs or herbs were also detected as plantings but were not encountered in natural occurrences within the study area. These include snowberry (*Symphoricarpos albus* var. *laevigatus*), alumroot (*Heuchera micrantha*), and toyon (*Heteromeles arbutifolia*).

Northern California black walnut, coast redwood, Monterey pine, and incense cedar, although native to California, are not naturally occurring trees within the study area. Coast redwoods on site are considered as planted trees based on an absence of cut stumps related to logging or growth in rings typical of second-growth redwoods. The trees are also generally smaller in stature than typical native redwoods in the region. Coast redwoods are not native to the floor of the Santa Clara Valley (Habitat Restoration Group 1989). Northern California black walnut is not considered native to the site, based on the understanding of its distribution in the wild before it was widely naturalized (Griffin and Critchfield 1976) after its extensive use as grafted rootstock for English walnuts. These trees are considered here to be waifs established from historical orchards in the area. Similarly, Monterey pine and incense cedar are outside of their ranges of natural distribution.

4.1.2 Ruderal Landscape/Hardscape

The open areas around planted trees and shrubs and their understories (including crevices in existing hardscape such as wing-walls, gunite, sacked concrete, and existing crib-walls) are dominated by ruderal plant species typical of highly disturbed places. Most landscaped areas in residential yards are routinely maintained for aesthetic reasons or fire protection. In such areas the native vegetation has been completely removed by grading, cultivation, weeding, spraying, or other surface disturbances related to general yard maintenance and other human activities. Such areas, if left fallow or undeveloped, typically become colonized by invasive exotic species, although weedy native species may also be present. In some cases, the native vegetation may ultimately become at least partially restored if the soils are left intact and there is no further disturbance.

Typical weedy, non-native species detected on site in upland areas outside the creek banks include field bindweed (*Convolvulus arvensis*), common knotweed (*Polygonum arenastrum*), bristly ox-tongue (*Picris echioides*), Italian thistle (*Carduus pycnocephalus*), common sow-thistle (*Sonchus oleraceus*), hedge-parsley (*Torilis arvensis*), ripgut brome (*Bromus diandrus*), hare barley (*Hordeum leporinum*), smilo grass (*Piptatherum miliaceum*), hoary mustard (*Hirschfeldia incana*), wild radish (*Raphanus sativa*), dittrichia (*Dittrichia graveolens*), and bull mallow (*Malva nicaeensis*), among others.

In cooler and moister situations along the lower portions of the creek banks, more shade-tolerant weed species are present, including Cape ivy (*Delairia odorata,* formerly *Senecio mikanioides*), Himalayan blackberry (*Rubus discolor*), and poison hemlock (*Conium maculatum*). Ruderal vegetation as it occurs on site is not specifically described by Sawyer and Keeler-Wolf (1995) and would be classified as upland following Cowardin, *et al.* (1979).

4.1.3 Remnant Central Coast Live Oak Riparian Forest

Central coast live oak riparian forest is characterized as a low, open, evergreen forest dominated by coast live oak (*Quercus agrifolia*). It is typically restricted to the drier, outer floodplains along perennial streams. It occurs in canyon bottoms and floodplains of the South Coast and Transverse ranges, at sea level to 3,500 feet, from Sonoma County south to near Point Conception. Characteristic species of this plant community detected in scattered locations on site include coast live oak, California buckeye (*Aesculus californica*), California bay laurel (*Umbellularia californica*), valley oak (*Quercus lobata*), and blue elderberry (*Sambucus mexicana*), among others. In the cooler, moister understory near the bottom of the creek bank, a single native western dogwood (*Cornus sericea* ssp. *occidentalis*) was observed.

Within the study area, discontinuous groups of trees and shrubs of the above species as well as scattered individuals are interpreted as remnants of what was once probably a more well developed plant community within the Adobe Creek watershed. Well developed riparian oak forest is found on Adobe Creek along the east side of Alta Mesa Cemetery approximately one mile downstream, and on the Foothill College campus approximately one and one-half miles upstream of the study area.

This vegetation type conforms to the coast live oak series as classified by Sawyer and Keeler-Wolf (1995). Remnants of this community along the high floodplain of Adobe Creek could be classified as palustrine seasonally flooded wetland following Cowardin *et al.* (1979).

4.1.4 Coastal and Valley Freshwater Marsh

Coastal and valley freshwater marsh typically occurs in low-lying sites that are permanently flooded with fresh water and lack significant flow. It is found on nutrient-rich mineral soils that are saturated for all or most of the year. This vegetation community is most extensive where surface flow is slow or stagnant or where the water table is so close to the surface as to saturate the soil from below. Valley freshwater marsh is most extensive in the upper portion of the Sacramento-San Joaquin River Delta. It is common in the Sacramento and San Joaquin valleys in river oxbows and other areas on the flood plain, and occasionally along the Colorado River on the California-Arizona border. It is now much reduced in area throughout its range (Holland 1986). This vegetation community characteristically forms a dense vegetative cover dominated by perennial, emergent monocots 1-15 feet high that reproduce by underground rhizomes.

On site, freshwater marsh vegetation is found near the downstream end of the study area, where the gravel and sandbars are shallowly inundated or saturated at the surface. Vegetation consists chiefly of low-growing emergent species dominated by the native species water cress (*Rorippa nasturtium-aquaticum*). Other native species present are small-fruited bulrush (*Scirpus microcarpus*), short-spiked hedge nettle (*Stachys pycnantha*), sneezeweed (*Helenium puberulum*), common nut-sedge (*Cyperus eragrostis*), northern willow herb (*Epilobium ciliatum* ssp. *ciliatum*), hoary nettle (*Urtica dioica* ssp. *holosericea*), and iris-leaved rush (*Juncus xiphioides*). A few small saplings of arroyo willow (*Salix lasiolepis*) were also present. Non-native species present within freshwater marsh on site include spearmint (*Mentha spicata*) and Himalayan blackberry.

Scattered individuals of several species were noted within the gravel and the sandbars of the stream channel bottom, but never more than as individuals or very small clumps. These include water cress, whorled dock (*Rumex conglomeratus*), short-spiked hedge nettle, white sweetclover (*Melilotus alba*), and swamp grass (*Crypsis schoenoides*). These areas were considered too small to be mapped, but all fall within the limits of ordinary high water within the active stream channel, where the water table is near the surface of the alluvial sand and gravel.

4.1.5 Floral Diversity

Vegetation within the study area is primarily dominated by ornamental horticultural plantings typical of residential yards in the region. Open areas and the understories of planted trees and shrubs generally support ruderal, weedy vegetation characteristic of highly disturbed areas. Occasional native trees and shrubs are found scattered along the upper banks of the creek, many of them overhanging the stream channel. These are considered to be remnants of the native riparian woodland. Most of the creek banks between channel and top of bank are reinforced with retaining walls, concrete, bricks, rock rip rap, or wooden structures, and support little or no vegetation. Several locations where stream bank fortification is lacking support dense colonies of weedy plant species such as Cape ivy or Himalayan blackberry. Vegetation within the channel bottom is generally absent for most of its length, with very occasional individuals or small clumps of herbaceous species such as water cress. At the downstream end of the study area, the channel supports a dense stand of freshwater marsh vegetation, consisting of mostly low-growing, emergent hydrophytic species. A complete list of vascular plants found on the site is presented in Appendix B. A total of 132 plant species were observed in the study area, 30 (23%) of which were native species.

4.2 Zoology – Wildlife Diversity

Wildlife species observed within the study area during the site reconnaissance are listed in Appendix C. Special-status species are addressed in further detail below in *Section 4.3.2.*

4.2.1 Birds

The study area encompasses a riparian corridor with many mature trees, including redwood, blue gum, acacia, cork oak, canary palm and buckeye, among others, and shrubs, as well as an area of upland habitat characterized by scattered trees and grasses, and a pile of large boulders, which could provide refuge to small birds and could potentially be used for foraging. These two distinct types of vegetation provide suitable nesting and foraging habitat for a variety of bird species. Raptors potentially nesting within the study area include Cooper's hawk (*Accipiter cooperii*), a California Species of Special Concern, sharp-shinned hawk (*Accipiter striatus*), a California Species of Special Concern, long-eared owl (*Asio otus*), a California Species of Special Concern, white-tailed kite (*Elanus leucurus*), a Federal Species of Concern and a Fully Protected California Species of Special Concern, red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), American kestrel (*Falco sparverius*), turkey vulture (*Cathartes aura*), western screech-owl (*Otus kennicottii*), common barn owl (*Tyto alba*), and great horned owl (*Bubo virginianus*). A pair of red-shouldered hawks has reportedly nested on a nearby stretch along Adobe Creek in the past (Habitat Restoration Group 1989), and a merlin (*Falco columbarius*), a California Species of Special Concern, has been observed along a stretch of Adobe Creek as well (Habitat Restoration Group 1989). Most raptors such as red-tailed hawk, great horned owl, and red-shouldered hawk nest in mature, large trees and use twigs or branches as nesting material. Smaller raptors such as American kestrel and western screech owl may nest in cavities in anthropogenic structures and trees.

As described above, suitable nesting and foraging habitat exists on the project site for many raptor species, especially those that can withstand some human disturbance such as red-tailed hawks and American kestrels. In addition to raptor species, many passerine and non-passerine land bird species have the potential to nest or forage on site. Passerines (perching birds) are a taxonomic grouping that consists of several families including swallows (*Hirundinidae*), larks (*Alaudidae*), crows, ravens and jays (*Corvidae*), shrikes (*Laniidae*), vireos (*Vireonidae*), finches (*Fringillidae*) and Emberizids (*Emberizidae*, warblers, sparrows, blackbirds, *etc.*), among others. Non-passerine land birds are a non-taxonomic based grouping typically used by ornithologists to categorize a loose assemblage of birds. Families grouped into this category include kingfishers (*Alcedinidae*), woodpeckers (*Picidae*), swifts (*Apodidae*), hummingbirds (*Trochilidae*), and pigeons and doves (*Columbidae*), among others.

Habitat, nesting, and foraging requirements for these species are wide ranging, therefore outlining generic habitat requirements for this grouping is difficult. These species typically use most habitat types and are known to nest on the ground, in shrubs and trees, on buildings, under bridges, and within cavities, crevices, and manmade structures. Many of these species migrate long distances and all species except starlings, English house sparrows, and rock doves (pigeons), are protected under the Federal Migratory Bird Treaty

Act. The nesting period for passerines and non-passerine land birds occurs between February 1 and August 31.

The study site provides suitable nesting habitat in the form of riparian vegetation such as trees, as well as blackberry bramble and shrubbery. Additionally the aquatic habitat provides an excellent foraging resource for insectivores such as flycatchers (*Empidonax* spp). The open, ruderal habitat within some areas proposed for access points or staging areas could provide both nesting habitat for ground nesting birds such as killdeer (*Charadrius vociferus*) as well as foraging habitat for a variety of seed and insect eating species. Additionally, trees that are scattered within the upland area provide suitable nesting habitat.

4.2.2 Fish

The full Hagar Environmental Science (HES) report describing potential fish habitat within the study area is provided in Appendix D the Fisheries Technical Memorandum. The following is based upon the attached report.

The HES biologists found the streambed upstream of Edith Avenue and downstream from Edith Avenue to the Robleda Storm Drain dry. This section of the channel is characterized by concrete and other hardscape bank protection including gunite, concrete block, and wood plank walls. When flows are present, it is likely that in areas where the bank protection is absent or failing, some cover exists for fish in the form of exposed root structure. The portion of the on-site channel upstream of Robleda Storm Drain is characterized primarily by gravel and sand substrate, with intermittent bank stabilization hardscape.

The channel downstream of the Robleda Storm Drain was characterized by continuous surface flows up to the Foothill Expressway at the time of the HES site visit. Several pools were also found in this reach at the base of boulder weirs (artificial) and a drop structure. In these pools, California roach (*Hesperoleucus symmetricus*) and young Sacramento sucker (*Catostomus occidentalis*) were observed during both the HES and Sycamore site visits. Other species that could occur in these instream pools include prickly sculpin (*Cottus asper*) and stickleback (*Gasterosteus* spp). A discussion of the status of special-status fish species populations in the regional vicinity and their relation to the project site appears in the later section on special-status wildlife, *Section 4.3.2*.

4.2.3 Reptiles and Amphibians

The study area provides potential aquatic habitat and upland refugia for a variety of amphibians and reptiles including western toad (*Bufo boreas*), California slender salamander (*Batrachoseps attenuatus*), California newt (*Taricha torosa*), Pacific tree frog (*Hyla regilla*), and common garter snake (*Thamnophis sirtalis*). The upland areas provide suitable habitat for terrestrial species including gopher snake (*Pituophis melanoleucus*), northern alligator lizard (*Elgaria coeruleus*), and western fence lizard (*Sceloporus occidentalis*).

4.2.4 Mammals

A variety of mammals could utilize the riparian and upland habitat found within the study area including Virginia opossum (*Didelphis virginiana*), pallid bat (*Antrozous pallidus*), a California Species of Special Concern, big brown bat (*Eptesicus fuscus*), red bat (*Lasiurus blossevillii*), California bat (*Myotis californicus*), western mastiff bat (*Eumops perotis*), a California Species of Special Concern, long-eared bat (*Myotis evotis*), a Federal Species of Concern, little brown bat (*Myotis lucifugus*), fringed bat (*Myotis thysanodes*), a Federal Species of Concern, long-legged bat (*Myotis volans*), a Federal Species of Concern, Yuma bat (*Myotis yumanensis*), a Federal Species of Concern, house mouse (*Mus musculus*), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), a Federal Species of Concern and a California Species of Special Concern, black rat (*Rattus rattus*), eastern fox squirrel (*Sciurus niger*), California meadow vole (*Microtus californicus*), and raccoon (*Procyon lotor*).

4.2.5 Wildlife Corridors

Wildlife movement includes migration (usually one direction per season), inter-population movement (long-term genetic exchange) and small travel pathways (daily movement corridors within an animal's territory). While small travel pathways usually facilitate movement for daily home range activities such as foraging or escape from predators, they also provide connection between outlying populations and the main corridor, permitting an increase in gene flow between populations.

These linkages between habitat types can extend for miles between primary habitat areas and occur on a large scale throughout California. Habitat linkages facilitate movement between populations located in discrete areas and populations located within larger habitat areas. The mosaic of habitats found within a large-scale landscape results in wildlife populations that consist of discrete sub-populations comprising a large single population, often referred to as a meta-population. Even where patches of pristine habitat are fragmented, such as occurs with coastal scrub, the movement between wildlife populations is facilitated through habitat linkages, *i.e.*, migration corridors and movement corridors.

Depending on the condition of the corridor, gene flow between populations may be high in frequency, thus allowing for high genetic diversity within the population, or may be low in frequency. Potentially low frequency gene flow may lead to complete isolation and, if pressures are strong, potential local extinction (McCullough 1996, Whittaker 1998).

Habitat fragmentation, by definition, is an event that creates a greater number of habitat patches that are smaller in size than the original contiguous tract(s) of habitat. Fragmentation of primary habitat types can hinder regional wildlife movements. The resulting reduced interaction between individuals changes the long-term dynamics of populations distributed among fragments and an inability to genetically adapt or respond to environmental pressures. This increases the probability of extinction for these populations compared to those associated with non-fragmented landscapes (Kupfer *et al.* 1997, Zuidema *et al.* 1996). Effects of fragmentation on the movement or dispersal of organisms is crucial to composition and diversity (Opdam 1990, Tiebout III and Anderson 1997).

The main movement corridor within the study area is the creek and its associated riparian vegetation. Currently, the creek is a highly degraded movement corridor, with drop structures that function as barriers to upstream movement of some species. The creek corridor is bordered by urban development that greatly reduces the opportunity for movement outside of the corridor itself.

4.3 Sensitive Biological Resources

Prior to conducting fieldwork, the California Natural Diversity Data Base (CDFG 2005a) was reviewed for the most recent distribution information for special-status plant and wildlife species within the Mountain View quadrangle and eight adjacent quadrangles.

4.3.1 Sensitive Plant Species

Special-status plant species include those listed as Endangered, Threatened, Rare or those species proposed for listing by the U.S. Fish and Wildlife Service (1996, 1997, 2001, 2004b), the California Department of Fish and Game (2005c, e), and the California Native Plant Society (2001, 2005). The California Native Plant Society listing is sanctioned by California Department of Fish and Game and serves essentially as their list of "candidate" plant species. California Native Plant Society List 1B and List 2 species are considered eligible for state listing as endangered or threatened under the California Department of Fish and Game Code. Such species should be fully considered during preparation of environmental documents subject to the California Environmental Quality Act (CEQA). California Native Plant Society List 3 and List 4 species are considered to be either plants about which more information is needed or are uncommon enough that their status should be regularly monitored. Such plants may be eligible or may become eligible for state listing, and the California Native Plant Society and California Department of Fish and Game recommend that these species be evaluated for consideration during the preparation of CEQA documents.

Based on a literature review and a familiarity with the flora within the project region, a total of 42 special-status plant species were considered to have at least some potential to occur within the region or have been recorded historically in the project vicinity (Table 1 Special-Status Plant Species Potentially Occurring On Site). Following initial surveys of the study area during October and November 2005, three plant species, including Oakland star-tulip (*Calochortus umbellatus*), California Native Plant Society List 4; Santa Clara red ribbons (*Clarkia concinna* ssp. *automixa*), California Native Plant Society List 4; and Michael's rein orchid (*Piperia michaelii*), California Native Plant Society List 4, were considered to have at least a low potential to occur on site based on the presence of marginally suitable habitat. Focused botanical surveys were conducted during April and June 2006 and none of these species were detected on site. No special-status plant species are expected to occur within the study area based on a lack of suitable habitat, or they are presumed absent based on negative findings during focused botanical surveys conducted in 2006. A list of all naturalized vascular plant species detected within the study area is presented in Appendix B.

Table 1. Special-Status Plant Species Potentially Occurring On Site

Family *Scientific Name* Common Name	Status[1]	Habitat Affinities and Reported Localities in the Project Area	Comments	Potential for Occurrence On Site
Apiaceae - Parsley Family				
Eryngium aristulatum var. hooveri Hoover's button-celery	**Federal:** SC **State:** CEQA **CNPS** 1B:3-3-3	Vernal pools. Recorded from San Benito, Santa Clara, and San Luis Obispo counties.	July annual/perennial	None: no suitable habitat present.
Asteraceae - Sunflower Family				
Centromadia parryi ssp. congdonii Congdon's tarplant (formerly Hemizonia parryi ssp. congdonii)	**Federal:** SC **State:** CEQA **CNPS** 1B:3-3-3	Valley/foothill grasslands on alkaline soils. Restricted to San Luis Obispo, Monterey, Alameda, Contra Costa, and Santa Clara counties; presumed extirpated in Santa Cruz and Solano counties.	June-November annual herb	None: no suitable habitat present.
Cirsium fontinale var. fontinale fountain thistle	**Federal:** FE **State:** CE **CNPS** 1B:3-3-3	Openings in chaparral, valley/foothill grasslands, on serpentine seeps. Restricted to San Mateo County. Known from only four occurrences in the vicinity of Crystal Springs Reservoir.	June-October perennial herb	None: no suitable habitat present.
Cirsium praeteriens lost thistle	**Federal:** none **State:** CEQA **CNPS** 1A	Unknown. Extirpated in Santa Clara county. Known from only two collections from Palo Alto.	June-July perennial herb	None: marginally suitable habitat present. Would have been detectable.
Eriophyllum latilobum San Mateo woolly sunflower	**Federal:** FE **State:** CE **CNPS** 1B:3-3-3	Cismontane woodland, on serpentinite. Often found on road cuts. Restricted entirely to San Mateo County.	May-June perennial herb	None: no suitable habitat present.
Lasthenia conjugens Contra Costa goldfields	**Federal:** FE **State:** CEQA **CNPS** 1B:3-3-3	Mesic sites in valley/foothill grassland, vernal pools. Known from Napa and Solano counties and recently rediscovered in Contra Costa County. Presumed extirpated in Alameda, Mendocino, Santa Barbara, and Santa Clara counties.	March-June annual herb	None: no suitable habitat present.
Lessingia arachnoidea Crystal Springs lessingia	**Federal:** SC **State:** CEQA **CNPS** 1B:3-2-3	Cismontane woodland, coastal scrub, valley/foothill grasslands on serpentinite. Restricted to San Mateo County.	July-October. annual herb	None: no suitable habitat present.
Lessingia hololeuca woolly-headed lessingia	**Federal:** none **State:** none **CNPS** 3:?-?-3	Coastal scrub, valley/foothill grasslands on clay and serpentinite. Found from Monterey to Napa counties.	June-October annual herb	None: no suitable habitat present.
Micropus amphibolus Mount Diablo cottonweed	**Federal:** none **State:** none **CNPS** 3:?-2-3	Broadleaf upland forest, cismontane woodland, valley/foothill grassland. Known from Lake to Santa Cruz counties, San Francisco Bay Area.	April-May annual herb	None: no suitable habitat present.
Pentachaeta bellidiflora white-rayed pentachaeta	**Federal:** FE **State:** CE **CNPS** 1B:3-3-3	Open dry rocky slopes, valley/foothill grassland, often on serpentinite. Restricted to San Mateo County; presumed extirpated in Marin and Santa Cruz counties.	March-May annual herb	None: no suitable habitat present.

Table 1. Special-Status Plant Species Potentially Occurring On Site

Family ***Scientific Name*** **Common Name**	**Status**[1]	**Habitat Affinities and Reported Localities in the Project Area**	**Comments**	**Potential for Occurrence On Site**
Boraginaceae				
Plagiobothrys chorisianus var. chorisianus Choris's popcorn-flower	**Federal:** CEQA **State:** **CNPS** 1B:2-2-3	Chaparral, coastal prairie, coastal scrub/ mesic sites. Known from Santa Cruz, San Francisco, and San Mateo Counties. May be present in Alameda County.	March-June annual herb	None: no suitable habitat present.
Boraginaceae - Borage Family				
Plagiobothrys glaber hairless popcorn-flower	**Federal:** none **State:** CEQA **CNPS** 1A	Alkaline meadows and vernal coastal saltmarshes. Presumed extinct. Once occurred in Alameda, Merced, Marin, San Benito, and Santa Clara counties.	April-May annual herb	None: no suitable habitat present.
Brassicaceae - Mustard Family				
Tropidocarpum capparideum caper-fruited tropidocarpum	**Federal:** SC **State:** CEQA **CNPS** 1A	Valley/foothill grasslands, on alkaline hills. Known historically from Alameda, Contra Costa, Glenn, Monterey, Santa Clara, and San Joaquin counties; presumed extinct. Last seen in 1957.	March-April annual herb	None: no suitable habitat present.
Campanulaceae - Bellflower Family				
Legenere limosa legenere	**Federal:** none **State:** CEQA **CNPS** 1B:2-3-3	Vernal pools. Known from Napa County and throughout the Sacramento Valley. Believed extirpated in Sonoma and Stanislaus counties.	May-June annual herb	None: no suitable habitat present.
Caryophyllaceae - Pink Family				
Silene verecunda ssp. verecunda San Francisco campion	**Federal:** SC **State:** CEQA **CNPS** 1B:3-2-3	Coastal bluffs, coastal scrub, dunes, on sandy or rocky soils. Known from fewer than 20 occurrences in Santa Cruz, San Mateo, and San Francisco counties.	March-June perennial herb	None: no suitable habitat present.
Chenopodiaceae - Goosefoot Family				
Suaeda californica California seablite	**Federal:** FE **State:** CEQA **CNPS** 1B:3-3-3	Coastal saltmarshes. Extirpated from San Francisco, Alameda, Santa Clara counties. Restricted to Morro Bay, San Luis Obispo County. Believed extirpated in Alameda and Santa Clara Counties.	July-October perennial shrub	None: no suitable habitat present.
Ericaceae - Heath Family				
Arctostaphylos montarensis Montara manzanita	**Federal:** SC **State:** CEQA **CNPS** 1B:3-2-3	Maritime chaparral and coastal scrub on slopes and ridges. Known from approximately 10 occurrences on San Bruno and Montara mountains, San Mateo County.	January-March evergreen shrub	None: no suitable habitat present.
Arctostaphylos regismontana Kings Mountain manzanita	**Federal:** CEQA **State:** **CNPS** 1B:2-2-3	Broadleaved upland forest, chaparral, North Coast coniferous forest, granitic and/or sandstone Known from two localities in the region; otherwise uncommon	January-April evergreen shrub	None: no suitable habitat present.

Table 1. Special-Status Plant Species Potentially Occurring On Site

Family ***Scientific Name*** Common Name	**Status**[1]	**Habitat Affinities and Reported Localities in the Project Area**	**Comments**	**Potential for Occurrence On Site**
Fabaceae - Pea Family				
Astragalus pycnostachys var. pycnostachys coastal marsh milk-vetch	**Federal:** none **State:** CEQA **CNPS** 1B:3-2-3	Coastal dunes (mesic), and coastal, salt and streamside marshes and swamps. Known from fewer than 10 occurrences in Marin and San Mateo counties. Extirpated in Humboldt County.	April-October perennial herb	None: no suitable habitat present.
Astragalus tener var. tener alkali milk-vetch	**Federal:** SC **State:** CEQA **CNPS** 1B:3-2-3	Playas, valley and foothill grassland (adobe clay), vernal pools/ alkaline; elevation 1-60 meters. Last collection in Bay Area from 1959. Protected only at Jepson Prairie Preserve, Solano County.	March-June annual herb	None: no suitable habitat present.
Hoita strobilina Loma Prieta hoita	**Federal:** none **State:** CEQA **CNPS** 1B:2-3-3	Chaparral, cismontane and riparian woodland, usually in mesic areas on serpentine soil. Recorded from Santa Clara and Santa Cruz counties. Believed extirpated in Alameda and Contra Costa counties.	May-October perennial herb	None: marginally suitable habitat present. Would have been detectable.
Lathyrus jepsonii var. jepsonii Delta tule pea	**Federal:** SC **State:** CEQA **CNPS** 1B:2-2-3	Freshwater and brackish marshes. Occurs throughout the Sacramento San Joaquin River delta, San Francisco Bay, and Central Valley.	May-September perennial herb	None: no suitable habitat present.
Lupinus eximius San Mateo tree lupine	**Federal:** SC **State:** CEQA **CNPS** 3:2-2-3	Chaparral and coastal scrub. Recorded from San Mateo County. May be present in Sonoma County.	April-July evergreen shrub	None: no suitable habitat present.
Trifolium depauperatum var. hydrophilum saline clover	**Federal:** none **State:** CEQA **CNPS** 1B:3-2-3	Marshes, swamps, valley and foothill grassland (mesic, alkaline), and vernal pools. Known from the San Francisco Bay area south to San Luis Obispo county. Possibly in Colusa county.	April-June annual herb	None: no suitable habitat present.
Lamiaceae - Mint Family				
Acanthomintha duttonii San Mateo thorn-mint	**Federal:** FE **State:** CE **CNPS** 1B:3-3-3	Chaparral, valley/foothill grassland, on serpentinite. Restricted to San Mateo County.	April-June annual herb	None: no suitable habitat present.
Monardella villosa ssp. globosa robust monardella	**Federal:** none **State:** CEQA **CNPS** 1B:3-2-3	Openings in chaparral, cismontane woodland. Occurs from the San Francisco Bay Area to Humboldt County.	June-July perennial herb (rhizomatous)	None: marginally suitable habitat present. Would have been detectable.

Table 1. Special-Status Plant Species Potentially Occurring On Site

Family *Scientific Name* Common Name	Status[1]	Habitat Affinities and Reported Localities in the Project Area	Comments	Potential for Occurrence On Site
Linaceae - Flax Family				
Hesperolinon congestum Marin western flax	**Federal:** FT **State:** CT **CNPS** 1B:3-3-3	Valley/foothill grassland and chaparral on serpentinite. Known from fewer than 20 occurrences in Marin, San Francisco, and San Mateo counties.	May-July annual herb	None: no suitable habitat present.
Malvaceae - Mallow Family				
Malacothamnus arcuatus arcuate bush mallow	**Federal:** none **State:** none **CNPS** 1B:2-2-3	Chaparral. Restricted to Santa Clara, Santa Cruz, and San Mateo counties.	April-July shrub (evergreen)	None: no suitable habitat present.
Onagraceae - Evening Primrose Family				
Clarkia concinna ssp. automixa Santa Clara red-ribbons	**Federal:** SC **State:** CEQA **CNPS** 4:1-1-3	Chaparral and cismontane woodland. Restricted to Santa Clara and Alameda counties.	April-July annual herb	None: marginally suitable habitat present. Would have been detectable.
Polygonaceae - Buckwheat Family				
Chorizanthe cuspidata var. cuspidata San Francisco Bay spineflower	**Federal:** none **State:** CEQA **CNPS** 1B:2-2-3	coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub/ sandy; elevation 3-215 meters. Known from Marin, San Francisco and San Mateo counties. Possibly in Santa Clara and Sonoma counties. Considered extirpated in Alameda County.	April-August annual herb	None: no suitable habitat present.
Eriogonum nudum var. decurrens Ben Lomond buckwheat	**Federal:** none **State:** CEQA **CNPS** 1B:3-3-3	Chaparral, cismontane woodland and lower montane coniferous forest (Maritime ponderosa pine sandhills), on sandy sites. Restricted to Alameda, Contra Costa, and Santa Cruz Counties.	June-October perennial herb	None: no suitable habitat present.
Scrophulariaceae - Figwort Family				
Collinsia multicolor San Francisco collinsia	**Federal:** none **State:** none **CNPS** 1B:2-2-3	Closed cone coniferous forest and coastal scrub, on moist, more or less shady sites. Restricted to Monterey, Santa Cruz, San Francisco, and San Mateo counties.	March-May annual herb	None: no suitable habitat present.
Cordylanthus maritimus ssp. palustris Pt. Reyes bird's-beak	**Federal:** SC **State:** CEQA **CNPS** 1B:2-2-2	Coastal saltmarsh. Believed extant in Humboldt, Marin, and Sonoma counties; presumed extirpated in Alameda, Santa Clara, and San Mateo counties.	May-October annual herb (hemiparasite)	None: no suitable habitat present.
Pedicularis dudleyi Dudley's lousewort	**Federal:** SC **State:** CR **CNPS** 1B:3-2-3	Maritime chaparral, North Coast coniferous forest, valley/foothill grassland. Restricted to San Luis Obispo, Monterey, and San Mateo counties. Believed extirpated in Santa Cruz County.	April-June perennial herb	None: no suitable habitat present.

Table 1. Special-Status Plant Species Potentially Occurring On Site

Family *Scientific Name* Common Name	**Status[1]**	**Habitat Affinities and Reported Localities in the Project Area**	**Comments**	**Potential for Occurrence On Site**
Thymelaeaceae - Mezereum Family				
Dirca occidentalis western leatherwood	**Federal:** none **State:** CEQA **CNPS** 1B:2-2-3	Broadleaf upland forest, closed cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest, and riparian woodland. Restricted to brushy slopes and mesic sites. Known from San Mateo to Sonoma counties.	January-April shrub (deciduous)	None: suitable habitat present. Would have been detectable.
Liliaceae - Lily Family				
Allium peninsulare var. franciscanum Franciscan onion	**Federal:** none **State:** CEQA **CNPS** 1B:2-2-3	Cismontane woodland, valley and foothill grassland (clay, often serpentinite). Known from Santa Clara, San Mateo, and Sonoma counties.	May-June perennial herb (bulbiferous)	None: no suitable habitat present.
Calochortus umbellatus Oakland star-tulip	**Federal:** none **State:** none **CNPS** 4:1-2-3	Broadleafed and upland forest, chaparral, lower montane coniferous forest, valley/foothill grassland, often on serpentinite. Known from Alameda, Contra Costa, Marin, Santa Clara, and San Mateo counties. Presumed extirpated in Santa Cruz County.	March-May perennial herb (bulbiferous)	None: marginally suitable habitat present. Would have been detectable.
Fritillaria biflora var. ineziana Hillsborough chocolate lily	**Federal:** none **State:** CEQA **CNPS** 1B:3-3-3	Cismontane woodland, valley/foothill grasslands, on serpentinite. Endemic to the Hillsborough area of San Mateo County.	March-April perennial herb (bulbiferous)	None: no suitable habitat present.
Fritillaria liliacea fragrant fritillary	**Federal:** SC **State:** CEQA **CNPS** 1B:2-2-3	Coastal prairie, coastal scrub, valley/foothill grassland near the coast, on clay or serpentinite. Known from the Central Coast from Sonoma to Monterey counties and the San Francisco Bay Area.	February-April perennial herb (bulbiferous)	None: no suitable habitat present.
Lilium maritimum coast lily	**Federal:** SC **State:** CEQA **CNPS** 1B:2-3-3	Coastal prairie, coastal scrub, bogs, closed-cone coniferous forest, broadleafed upland forest, and North Coast coniferous forest. Restricted to Mendocino, Sonoma and possibly San Francisco counties; presumed extirpated in Marin and San Mateo counties.	June-July perennial herb (bulbiferous)	None: no suitable habitat present.
Orchidaceae - Orchid Family				
Piperia michaelii Michael's rein orchid	**Federal:** none **State:** none **CNPS** 4:1-2-3	Coastal bluff scrub, closed-cone coniferous forest, cismontane woodland and lower montane coniferous forest. Coastal from San Luis Obispo to Humboldt counties and the San Francisco Bay Area; expected in the Sierra foothills.	May-August perennial herb	None: marginally suitable habitat present. Would have been detectable.

Table 1. Special-Status Plant Species Potentially Occurring On Site

Family ***Scientific Name*** Common Name	**Status**[1]	**Habitat Affinities and Reported Localities in the Project Area**	**Comments**	**Potential for Occurrence On Site**
Potamogetonaceae - Pondweed Family				
Potamogeton filiformis slender-leaved pondweed	**Federal:** none **State:** CEQA **CNPS** 2:3-2-1	Shallow freshwater marshes and swamps. Recorded from the San Joaquin Valley, central high Sierra Nevada, and the San Francisco Bay Area.	May-July perennial herb (rhizomatous)	None: no suitable habitat present.

[1] Explanation of sensitivity status codes provided in Appendix C.

4.3.2 Sensitive Wildlife Species

Special-status wildlife species include those listed by the U.S. Fish and Wildlife Service under the federal Endangered Species Act (1996, 1997, 2001, 2004b) and by the California Department of Fish and Game under the California Endangered Species Act (2005b,d). The U.S. Fish and Wildlife Service officially lists species as either Threatened, Endangered, or as Candidates for listing. Additional species receive federal protection under the Bald Eagle Protection Act (*e.g.*, bald eagle, golden eagle), the Migratory Bird Treaty Act (MBTA) and state protection under CEQA §15380(d). All birds, except European starlings, English house sparrows, and rock doves (pigeons), are protected under the Migratory Bird Treaty Act. In addition, many other species are considered by the California Department of Fish and Game to be California Species of Special Concern; these are listed in Remsen (1978), Williams (1986), and CDFG (2005b). Although such species are afforded no official legal status, they may receive special consideration during the CEQA review process. The California Department of Fish and Game further classifies some species under the following categories: "Fully Protected", "Protected birds" (CDFG Code §3511), "Protected mammals" (CDFG Code §4700), "Protected amphibian" (CDFG Code §5050), "Protected reptile" (CDFG Code §5050), and "Protected fish" (CDFG Code §5515). The designation "Protected" indicates that a species may not be taken or possessed except under special permit from California Department of Fish and Game; "Fully Protected" indicates that a species can be taken for scientific purposes by permit only (CDFG 2005d). The Fish and Game Code §§3503, 3505, and 3800 prohibits the take, destruction or possession of any bird, nest or egg of any bird except English house sparrows and European starlings unless express authorization is obtained from the California Department of Fish and Game.

Based on a literature review and a familiarity with the fauna within the project region, a total of 59 special-status wildlife species were considered to have at least some potential to occur within the region or have been recorded historically in the project vicinity (Table 2 Special-Status Wildlife Species Potentially Occurring On Site). Special-status wildlife species associated with habitats not present on site such as salt-marsh harvest mouse (*Reithrodontomys raviventris*), federally-listed Endangered and state-listed Endangered, California clapper rail (*Rallus longirostris obsoletus*), federally-listed Endangered and state-listed Endangered, and California least tern (*Sterna antillarum browni*), federally-listed Endangered and state-listed Endangered, are not discussed in detail in this report. Those species that have a potential to occur on site and/or are prominent in today's regulatory environment are discussed herein.

Invertebrates

Four species of special-status invertebrates were considered to have some potential to occur based upon a search of the California Native Diversity Database and U.S. Fish and Wildlife Service report for the Mountain View Quad, including the bay checkerspot butterfly (*Euphydryas editha bayensis*), federally-listed Threatened, Ricksecker's water scavenger beetle (*Hydrochara rickseckeri*), a species tracked by the California Natural Diversity Database, San Bruno elfin butterfly (*Incisalia mossii bayensis*), federally-listed Endangered, and vernal pool tadpole shrimp (*Lepidurus packardi*), federally-listed Endangered.

The bay checkerspot butterfly is found within Santa Clara and San Mateo Counties on serpentine-derived soils, which support the larval food plants. Due to the lack of appropriate soils and associated plants including California plantain (*Plantago erecta*), and California goldfields (*Lasthenia californica*), the bay checkerspot butterfly is not expected to occur on site.

The Ricksecker's water scavenger beetle is an aquatic species found in freshwater ponds, lagoons and vernal pools in the San Francisco Bay Area. Due to the lack of appropriate aquatic habitat on site, the Ricksecker's water scavenger beetle is not expected to occur on site.

The San Bruno elfin butterfly is found mainly in the vicinity of San Bruno Mountain in San Mateo County, in mountainous areas with grassy ground cover. Due to the lack of appropriate habitat and that the site is not within the known range of the San Bruno Elfin butterfly, it is not expected to occur on site.

The vernal pool tadpole shrimp is found throughout the Central Valley in vernal pools. Due to the lack of vernal pools on site, the vernal pool tadpole shrimp is not expected to be present.

Birds

Cooper's Hawk

The Cooper's hawk is a medium sized raptor distributed year-round throughout California, and much of the contiguous United States. The Cooper's hawk occupies open forested areas, oak woodland, and riparian areas, nesting in conifers or deciduous trees. Primarily an ambush hunter, Cooper's hawks feed on small birds and mammals, and on occasion, fish (Alsop 2001). Cooper's hawks lay four to six eggs per year, with chicks hatching after 32-36 days. Cooper's hawks are highly territorial, and will generally not allow sharp-shinned hawks to occupy the same woodland.

Suitable nesting habitat for Cooper's hawk is present within the riparian canopy of the study area, including a stand of tall redwoods. Additionally, ample prey in the form of small birds and mammals is present. A Cooper's hawk nest has been reported as close as eight miles to the southeast. Cooper's hawks often forage in dense riparian areas. Therefore, the Cooper's hawk is considered to have a high potential to occur on site.

Sharp-Shinned Hawk

The sharp-shinned hawk is a medium sized raptor distributed year-round throughout California, and much of the contiguous United States. The sharp-shinned hawk occupies open forested areas, oak woodland, and riparian areas, nesting in conifers or deciduous trees. Sharp-shinned hawks feed on small birds and mammals, including bats (Alsop 2001). Sharp-shinned hawk lay between four and five eggs per year, with chicks hatching after 32-35 days.

Suitable nesting habitat for sharp-shinned hawk is present within the riparian canopy of the study area, including a stand of tall redwoods. Additionally, ample prey in the form of small birds and mammals is present. Sharp-shinned hawks often forage in dense riparian areas. Therefore, the sharp-shinned hawk is considered to have a high potential to occur on site.

White-Tailed Kite

The white-tailed kite is a medium-sized raptor that is distributed across much of the western part of California. The white-tailed kite occupies low-elevation grassland, agricultural, wetland, oak woodland and savanna habitats and nests in a wide variety of trees and shrubs, either isolated or in larger stands. Nearby open areas are required for foraging, including certain types of agricultural fields. Food habit studies have demonstrated that voles make up a large proportion of its diet, although other small mammals, birds and insects are also preyed upon (Alsop 2001). The species hunts during the day primarily by hovering and searching for prey. White-tailed kites in California are generally resident, although they may occupy different areas during the non-breeding and breeding seasons. Typically, four eggs are laid in February and March and chicks hatch after 30-32 days. Juveniles are dependent on parents for two to three months before they fledge. During the non-breeding season, the species roosts communally.

The large eucalyptus and redwood trees on site provide suitable nesting habitat for white-tailed kites; however, open areas for foraging are less plentiful nearby due to the developed nature of the surrounding area. The nearest known occurrence of white-tailed kite nest is over nine miles to the northeast. For these reasons, the white-tailed kite is considered to have a moderate potential to occur on site.

Long-Eared Owl

The long-eared owl is a medium sized owl found throughout much of central and southern California, year-round along the coast. Considered one of the most nocturnal of the owls, the long-eared owl is found in a variety of habitats ranging from riparian area and woodlands to deserts (Alsop 2001). The long-eared owl nests in cavities or abandoned nests in trees, and feeds primarily on small mammals, and occasionally small birds. The long-eared owl lays between two and ten eggs per year, and chicks hatch after 26-28 days.

While the riparian canopy on site provides potentially suitable nesting habitat for the long-eared owl, the abundance of suitable nest sites is limited by the presence of eucalyptus trees, which are generally less used by wildlife species that tend to make cavities which could be in turn used by long-eared owls. The nearest known occurrence of long-eared owl nest is less than six miles to the southwest. Due to the potential suitability of the nesting habitat on site, the presence of appropriate prey, in the form of small mammals, and a known nest site in the vicinity, the long-eared owl is considered to have a moderate potential to occur on site.

Western Burrowing Owl

In California, the western burrowing owl occurs in the Central Valley, inner and outer Coastal region, portions of the San Francisco Bay Area, southern California Coast, from southern California to the Mexico border, the Imperial Valley and in portions of the desert and high desert habitats in southeastern and northeastern California. In the west, their preferred habitats are deserts, plains and open grasslands, and in some cases, urban and agricultural landscapes. As burrowing owls require underground burrows or artificial structures for shelter and nesting, they are associated with other burrowing animals such as prairie dogs, ground squirrels, badgers and some smaller canids. In the Bay Area, these owls typically utilize Beechey ground squirrel burrows and man-made artificial structures, sometimes in highly disturbed areas, for shelter and nesting. Burrows are used year-round and are an essential component to the life history of burrowing owls.

The staging areas have already been developed and/or are planted in ornamental landscape vegetation and, although portions of these areas are characterized by low-lying vegetation or have been cleared, no ground squirrel burrows were observed during the site visit. Additionally, the dense, highly vegetated nature of the riparian corridor does not provide suitable nesting or foraging habitat for burrowing owl. As such, no suitable foraging or nesting habitat is present on site for western burrowing owl. Although the nearest known occurrence of western burrowing owl is approximately three miles to the northeast, due to the lack of suitable habitat, western burrowing owls are not expected to occur on site.

Oak Titmouse

The oak titmouse (*Baeolophus inornatus*), a species tracked by the California Natural Diversity Database, is a small gray-brown titmouse with a crest, found exclusively in California. The oak titmouse is found in woodland and riparian areas and feeds primarily on seeds and small insects. Typically nesting in cavities, the oak titmouse lays 6-8 eggs, which hatch in 14-16 days, and can have up to two broods per year (Alsop 2001).

An oak titmouse was observed foraging on site during the reconnaissance-level site visit, and suitable nesting and foraging habitat is present on site within the riparian habitat.

Lawrence's Goldfinch

The Lawrence's goldfinch (*Carduelis lawrencei*), a species tracked by the California Natural Diversity Database, is a small goldfinch with a relatively small bill and long tail. The Lawrence's goldfinch uses several habitat types in California including riparian areas, mountains, scrub, bramble and semi-arid deserts.

Suitable nesting habitat in the form of riparian cover and bramble is present on site, and as such, Lawrence's goldfinch is considered to have a moderate potential to occur within the study area.

Nuttall's Woodpecker

Nuttall's woodpecker (*Picoides nuttallii*), a species tracked by the California Natural Diversity Database, is a woodpecker species known to inhabit chaparral, oak woodland, and riparian areas, where they feed on insects, berries, acorns, sap, and some grain. Like other woodpeckers, they nest in cavities excavated in trees. Nuttall's woodpecker is found through most of California west of the Sierra Nevada Mountains (Alsop 2001).

Suitable nesting and foraging habitat for Nuttall's woodpecker is present within the study area among the numerous mature trees present in the riparian corridor. Based on the presence of suitable nesting and foraging habitat, Nuttall's woodpecker is considered to have a high potential to occur within the study area.

Fish

The anadromous steelhead (Oncorhynchus mykiss), federally-listed Threatened, and its freshwater resident form, usually referred to as rainbow trout (Oncorhynchus mykiss), is a medium to large fish with varying life history strategies and a wide-ranging distribution. In California, they range from the Oregon border to Malibu Creek in southern California. In some years, steelhead may be found as far south as the Santa Margarita River in San Diego County. Both anadromous and freshwater resident forms occur and both forms may be present in a single stream. Those that are anadromous can spend up to seven years in freshwater prior to smoltification, and then spend up to three years in salt water prior to first spawning (Busby et al 1996). The most widespread run type of steelhead is the winter (ocean-maturing) steelhead (Busby et al. 1996). Winter steelhead occur in nearly all coastal rivers in California. Summer (stream-maturing) steelhead are less common and occur in a few rivers in northern California. Considerable variability occurs in the timing of migration and spawning, particularly in Sacramento River basin runs. Once the eggs have hatched, steelhead generally spend two years in freshwater before migrating to the ocean. The timing can vary between one year and permanent stream residency. Some resident trout will never migrate to the ocean. Juvenile steelhead undergo smoltification and migrate to the ocean during the late spring and summer. During the freshwater phase of their lifecycle, steelhead/rainbow trout inhabit cold water rivers and streams. According to Behnke (1992) four types of habitat are required during the stream portion of the steelhead/rainbow trout life cycle. These are spawning, rearing, maintenance or adult, and overwintering habitat.

Steelhead/rainbow trout are presently considered to be extirpated from the Adobe Creek system (Leidy *et al.* 2005), due in part to impassable fish barriers on the creek. They have been reported historically from the associated watershed, and it is likely that steelhead/rainbow trout were historically present in the stretch of creek that lies within the study area, as they were in nearby streams. The existing habitat within Adobe Creek appears capable of supporting steelhead/rainbow trout if these barriers were to be removed in the future; however, the lack of streamflow in the reach upstream of Robleda Storm Drain would preclude steelhead/rainbow trout, although there was good flow upstream at O'Keefe Lane and that reach could be used seasonally if there are trout populations upstream. Summer temperature conditions are not known but may be warm for trout. No independent assessment of fish migration barriers was made for this Biological Resources Report.

Reptiles

Western Pond Turtle

The western pond turtle (*Clemmys marmorata)*, a California Species of Special Concern, is the only fresh-water turtle native to greater California (Storer 1930). The literature describes two subspecies of western pond turtle; the northwestern pond turtle (*C. m. marmorata*) and the southwestern pond turtle (*C. m. pallida*). Overall, western pond turtles are habitat generalists, and have been observed in slow-moving rivers and streams (*e.g.* in oxbows), lakes, reservoirs, permanent and ephemeral wetlands, stock ponds, and sewage treatment plants. They prefer aquatic habitat with refugia such as undercut banks and submerged vegetation (Holland 1994), and require emergent basking sites such as mud banks, rocks, logs, and root wads to thermoregulate their body temperature (Holland 1994, Bash 1999).

Western pond turtles regularly utilize upland terrestrial habitats, most often during the summer and winter, especially for oviposition (females), overwintering, aseasonal terrestrial habitat use, and overland dispersal (Reese 1996, Holland 1994). Females have been reported ranging as far as 500 m (1,640 ft) from a watercourse to find suitable nesting habitat (Reese and Welsh 1997). Nest sites are most often situated on south or west-facing slopes, are sparsely vegetated with short grasses or forbs, and are scraped in sands or hard-packed, dry, silt or clay soils (Holland 1994, Rathbun *et al.* 1992, Holte 1994, Reese and Welsh 1997). Western pond turtles exhibit high site fidelity, returning in sequential years to the same terrestrial site to nest or overwinter (Reese 1996).

Females lay their clutch as early as late April in southern and Central California to late July, although they predominantly lay in June and July. In the early morning or late afternoon, gravid females leave the water and move upland to nest (Holland 1994). Natural incubation times vary, ranging from 80 – 100+ days in California. In northern California and Oregon, hatchlings remain in the nest after hatching and overwinter, emerging in the spring. In southern and central California, those that don't overwinter emerge from the nest in the early fall (Holland 1994).

The nearest known occurrence of western pond turtle is less than four miles to the northwest in San Francisquito Creek, which is not directly hydrologically connected to Adobe Creek. Furthermore, no suitable basking habitat is present on site and access to upland areas for nesting is hindered by the various types of hardscape currently in place along the banks. Therefore, western pond turtle is not expected to occur on site.

Amphibians

California Red-Legged Frog

The California red-legged frog (*Rana (=aurora draytonii) draytonii*) is federally-listed as Threatened and a California Species of Special Concern. Optimal habitat includes ponds, stream courses, permanent pools (Storer 1925) and intermittent streams fed by drainage areas no larger than 300 km^2 (Hayes and Jennings 1988, USFWS 2004a). This species occurs between sea level and 1,500 meters (5,000 feet) in elevation (USFWS 2004a). Typical habitat characteristics include water depth of at least 0.7 meters (2.5 feet), largely intact emergent or shoreline vegetation, *e.g.* cattails (*Typha* spp.), tules (*Scirpus* spp.) or willows (*Salix* spp.), and absence of competitors/predators such as bullfrogs (*Rana catesbeiana*) and largemouth bass (*Micropterus salmoides*) (Hayes and Jennings 1988). However, according to Jennings (personal communication 2003), California red-legged frog will use a wide variety of habitats, including temporary pools and streams, permanent watercourses, ponds, concrete-lined pools, isolated wells, stock ponds absent of shoreline vegetation, and refuse piles near ponds. However, permanent aquatic habitat is essential to the survival of local California red-legged frog populations.

Adults are highly aquatic and are most active at night (Storer 1925). California red-legged frogs also make use of terrestrial habitat, especially after precipitation events for non-migratory forays into adjacent upland habitats and for migratory overland movements to breeding sites. In a study conducted by Bulger *et al.* (2003) at a coastal site in northern Santa Cruz County, California red-legged frog typically remained within five meters (16 feet) of aquatic habitat during dry periods, but moved into upland habitat as far as 130 meters (426 feet) during summer rains. Overland routes were often highly oriented toward the nearest pond and were typically traversed in direct, point-to-point movements with little to no preference or avoidance toward any particular topography or habitat type. California red-legged frogs were documented to migrate between aquatic sites at distances up to 3,200 meters (approximately two miles).

Breeding typically begins between November and mid-December and lasts through April in most years, but is dictated by winter rainfall (Stebbins 2003, Jennings and Hayes 1994, Bulger *et al.* 2003). Breeding typically occurs in permanent ponds and may occur in slower water of streams (*i.e.* pools or backwaters) (Hayes and Jennings 1988). At breeding sites males call in groups, or leks, of three to seven individuals to attract females (Jennings and Hayes 1994). During amplexus (breeding posture), eggs are fertilized by the male while the female deposits the egg mass on emergent vegetation (Storer 1925, Jennings and Hayes 1994). However, breeding has also been documented to occur in ponds that lack emergent vegetation (Bobzien *et al.* 2000). Larvae typically hatch in 6-22 days and metamorphosis is usually completed in 4-5 months (Bobzien *et al.* 2000, Jennings and Hayes 1994). There have been several documented cases of tadpoles overwintering to then metamorphose the following spring (Storer 1925, Fellers *et al.* 2001, Bobzien *et al.* 2000). Males and females usually attain sexual maturity at two and three years, respectively (Jennings and Hayes 1994).

The most significant threats to California red-legged frogs include habitat loss and alteration, introduced predators, water management, mismanagement of grazing livestock, chemical contamination from urban and industrial runoff, and extended drought conditions.

Current conditions in the study area provide marginally suitable breeding habitat for California red-legged frog in the form of ponding water within the creek channel. The nearest known occurrence of California red-legged frog is over two miles to the northwest in Deer and Matadero Creeks, which have no direct hydrological connection to Adobe Creek. Due to the existing channelization of the stream corridor and the lack of access to upland refugia due to hardscape surfaces, and scattered cover for predation avoidance, California red-legged frog is considered to have a very low potential to occur on site.

Foothill Yellow-Legged Frog

The foothill yellow-legged frog (*Rana boylii*), a California Species of Special Concern, is a moderate-sized (37-82 mm SUL [snout-urostyle length]) frog that inhabits the Coast Range from the Oregon border to San Luis Obispo County and the western foothills of the Sierra

Nevada. This species occurs from sea level to about 6000 feet in elevation (Stebbins 2003, Jennings and Hayes 1994). Historically, the foothill yellow-legged frog occurred in most Pacific drainages west of the Sierra/Cascade Crest, and was found from Marion County, Oregon to Los Angeles County, California. It has been extirpated from most historic locations in southern California and throughout much of the foothills in the Sierra Nevada (Jennings and Hayes 1994).

Information regarding the life history of this species is limited (Jennings and Hayes 1994). The foothill yellow-legged frog occurs in rocky stream habitats, usually in woodland, chaparral or forest, with little to no pooling or bank vegetation cover (Stebbins 2003). These frogs are highly aquatic and when disturbed will dive to the bottom of the stream for cover (Stebbins 2003). Breeding occurs mid-March to early June after high flows have subsided (Stebbins 2003) in shallow, slow flowing water, usually pebble/cobble river bars along pools and riffles. Under natural flow regimes, foothill yellow-legged frog has been observed to deposit eggs earlier in the breeding season during drought conditions (Kupferberg 1996). Egg masses are usually attached to the downstream side of cobbles or pebble in backwater pools (Lind and Welsh 1996), but have also been found attached to aquatic vegetation, woody debris, and gravel. Alterations of natural flow regimes in lotic systems due to flood control and reservoir construction have caused loss of egg masses during high flows as well as desiccation during low flows (Kupferberg 1996).

Eggs typically hatch within five to thirty days or more, with metamorphosis taking three to four months (Zweifel 1955). Larvae are often difficult to observe in a flowing stream environment, and can appear similar to juvenile western toads. Metamorphosis occurs between July and September, so metamorphs require perennial streams or at least watercourses that flow late in the season. Tadpoles feed on algae, while adults feed on terrestrial and aquatic invertebrates. Tadpoles appear to be negatively affected by non-native species such as predatory fish and bullfrogs due to predation and competition (Kupferberg 1997, Hayes and Jennings 1988). Numerous aquatic insects, garter snakes, and birds prey upon tadpoles, while predatory fish and mammals and birds prey upon adults.

Threats to the foothill yellow-legged frog include altered flow regimes from the construction of reservoirs leading to loss of breeding habitat, high flow releases which can scour egg masses off the substrate, and low flows in the spring leading to desiccation of egg masses. Siltation of the stream course due to activities such as urban development, landslides and logging can cause smothering of the eggs, loss of larval habitat (the interstitial spaces between substrate used for refugia), and a reduction in the aquatic invertebrate abundance, which serves as the prey base for adult frogs.

Foothill yellow-legged frog is not expected to be present within the project area. In channel substrate is sub-optimal for foothill yellow-legged frog since there is a good deal of sediment deposition and general lack of cobble type rock in most of the channel. Additionally, the nearest known occurrence of foothill yellow-legged frog is over ten miles away, and there is no known connectivity between Adobe Creek and occupied habitat.

California Tiger Salamander

The California tiger salamander (*Ambystoma californiense*), a California Species of Special Concern and federally-listed Threatened, is a relatively large, terrestrial salamander that inhabits grasslands and oak savanna habitats in the valleys and low hills of central and northern California (Storer 1925, Stebbins 1985, Barry and Shaffer 1994, USFWS 2004c). The California tiger salamander has been recorded from all of the nine Bay Area counties at elevations ranging from approximately ten to 3,500 feet above mean sea level (Shaffer and Fisher 1991). California tiger salamanders appear to be in the initial stages of habitat fragmentation and decline (Fisher and Shaffer 1996). They require vernal pools, ponds (natural or man-made), or semi-permanent calm waters (where ponded water is present for a minimum of three to four months) for breeding and larval maturation, and adjacent upland areas that contain small mammal burrows or other suitable refugia for aestivation.

No temporary or permanent ponds were observed within the study area, which precludes California tiger salamander breeding. The staging areas have already been developed and/or are planted in ornamental landscape vegetation and, although portions of these areas are characterized by low-lying vegetation or have been cleared, no ground squirrel burrows were observed during the site visit. Given the absence of ground squirrel burrows, the site does not provide suitable aestivation habitat for the species. The closest reported occurrence of California tiger salamander lies approximately three miles northwest of the study area. As such, no suitable aquatic breeding or upland aestivation habitat for California tiger salamander is present on the study area. Therefore, California tiger salamander is not expected to be present.

Mammals

There are 24 known species of bats in California. Of those, 11 are classified as California Species of Special Concern (CDFG 2005b). Five special-status bat species have at least some potential to occur within the project area, including pallid bat (*Antrozous pallidus*), a California Species of Special Concern, long-eared myotis (*Myotis evotis*), fringed myotis (*Myotis thysanodes*), long-legged bat (*Myotis volans*), a species tracked by the California Natural Diversity Database, and Yuma myotis (*Myotis yumanensis*), a California Species of Special Concern. These bats are discussed in detail below.

Pallid Bat

The pallid bat is a large gleaning bat, which eats primarily large insects including crickets and in some areas scorpions. Pallid bats are colonial roosters from spring through fall, found in groups ranging from 20 to 100 individuals. During the winter, they generally hibernate either alone or in small groups. They roost in a variety of habitats including buildings, rock crevices, tree hollows, mines, caves, and the basal hollows of redwood trees. Pallid bats generally mate between October and February, and give birth from March to July to between one and three offspring (USFS 1997). Due to the presence of marginally suitable roosting habitat and adequate foraging habitat, the pallid bat is considered to have a low potential to occur on site.

Fringed Myotis

The fringed myotis is a large, colonially (between ten and two-thousand individuals) roosting bat found throughout California. The fringed myotis is primarily a forest bat, using redwood and sequoia trees, as well as mines and buildings, for roosting. They generally mate in the fall and give birth in the summer to a single offspring. Females have been known to travel as much as eight miles from a roost to forage (USFS 1997). Due to the presence of marginally suitable roosting and foraging habitat on site, the fringed myotis is considered to have a very low potential to be present.

Long-legged Myotis

The long-legged myotis is found throughout California below 4,000 feet in elevation. The long-legged myotis forms small colonies and roosts in forests, deserts, and riparian areas, primarily in trees and snags. They feed on a variety of moths and beetles. Long-legged myotis mate in the fall and give birth between May and August (USFS 1997). Due to the presence of marginally suitable roosting and foraging habitat on site, the long-legged myotis is considered to have a low potential to occur.

Yuma Myotis

The Yuma myotis is a small bat associated with rivers and streams. As an aquatic specialist, the Yuma myotis feeds upon a variety of aquatic emergent insects including caddis flies. Females form maternity colonies that number in the thousands, while males roost solitarily in the summertime. Yuma myotis will roost in a variety of habitats including riparian, scrub, desert, and forest environments, in bridges, buildings, cliffs, caves, mines, and trees. They mate in the fall, and give birth in the spring and summer to a single offspring (USFS 1997). Due to the presence of marginally suitable roosting and foraging habitat on site, the Yuma myotis is considered to have a low potential to occur.

Long-eared Myotis

The long-eared myotis is associated with forest, desert, shrub, chaparral, and agricultural areas, and roosts under exfoliating bark, in hollows, caves, mines, rock crevices, buildings and bridges. They eat a variety of insects including moths, beetles, flies, and wasps. During the late spring/summer, long-eared myotis females form small maternity colonies, giving birth to a single offspring. Non-reproductive females and males roost alone, or in small groups (USFS 1997). Due to the presence of marginally suitable roosting and foraging habitat on site, the long-eared myotis is considered to have a low potential to occur.

San Francisco Dusky-Footed Woodrat

San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), a California Species of Special Concern, is a subspecies of the common dusky-footed woodrat. These medium-sized rats build large stick nests averaging 46 inches high at the bases of trees and shrubs, and contain multiple chambers and openings (Carraway 1991). They prefer forested habitat with a moderate to complete canopy cover and brushy understory, and are often found on the upper banks of riparian forests. However, woodrats will also nest in chaparral, coastal sage-scrub and mixed coniferous forests (Carraway 1991). Nesting locations are determined based on a combination of dark, cool surroundings, low to moderate humidity and dense cover. This woodrat feeds on a variety of woody plants, fungi, flowers and seeds (Jameson and Peeters 2004), prefers evergreen vegetation high in fiber, tannins, and polyphenolics such as oaks, California bay, alders, willows, coffeeberry, toyon, coyote brush, and Douglas fir, among others (Atsatt and Ingram 1983, Carraway 1991). Home ranges average ½ acre with males having slightly larger home ranges, all of which overlap from 15 to 62 percent depending on breeding activity (Carraway 1991). Woodrats are commonly preyed upon by weasels, coyote, bobcats and rattlesnakes as well as several raptors such as barn owls, great horned owls, and red-tailed hawks (Carraway 1991).

The study area is within the range of the San Francisco dusky-footed woodrat based upon ranges described originally by Hall (Carraway 1991, Matocq 2002), and marginally suitable habitat for San Francisco dusky-footed woodrat is present on site. A possible woodrat midden was observed during a site visit, however due to the poor quality of the habitat, and lack of confirmation of the midden's occupant or activity status, San Francisco dusky-footed woodrat is considered to have a low potential to occur on site.

Table 2. Special Status Wildlife Species Potentially Occurring On Site

Scientific Name Common Name	Status[1]	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence On Site
Invertebrates			
Euphydryas editha bayensis Bay Checkerspot Butterfly	**Federal:** FT **State:** None	Restricted to Santa Clara and San Mateo Counties in California. Habitat exists on shallow, serpentine-derived or similar soils, which support the butterfly's larval food plant, California plantain (*Plantago erecta)* and nectar plants including desert-parsely (*Lomatium* spp.) and California goldfields (*Lasthenia californica*), among others.	Not expected - no suitable habitat on site
Hydrochara rickseckeri Ricksecker's water scavenger beetle	**Federal:** None **State:** CNDD B	This aquatic species has been recorded in freshwater lakes, ponds, lagoons, and vernal pool habitats in scattered localities around the San Francisco Bay Area. Members of this Family (Hydrophilidae) are scavengers whose larvae are predatory. It is unknown if populations of this species still exist. Restricted to the San Francisco Bay Area.	Not expected - no suitable habitat on site
Incisalia mossii bayensis San Bruno Elfin butterfly	**Federal:** FE **State:** None	Coastal, mountainous areas with grassy ground cover, mainly in the vicinity of San Bruno Mountian, San Mateo County. The adult flight period is late February to mid-April, with the peak flight period occurring in March and early April. Eggs are laid in small clusters or strings on the upper or lower surface of stonecrop (*Sedum spathulifolium*).	Not expected - no suitable habitat on site
Lepidurus packardi Vernal pool tadpole shrimp	**Federal:** FE **State:** None	Inhabits vernal pools in grassland habitats in the Central Valley between Shasta County and Merced County. Eggs hatch within a month of inundation; adults present until pools dry in the spring.	Not expected - no suitable habitat on site
Fish			
Acipenser medirostris Green sturgeon (Southern DPS)	**Federal:** FT **State:** CSC	Anadromous. Inhabits the coastal Pacific Ocean and estuaries of large rivers. Migrates far inland to spawn. Spawns during spring in rivers in deep, cold, fast-moving water. Estuaries serve as nurseries. Adults are mostly marine, spending limited time in estuaries and rivers. The Southern DPS includes all populations south of but not including the Eel River. The only known spawning area for the Southern DPS is in the Sacramento River.	Not expected - no suitable habitat on site
Hypomesus transpacificus Delta smelt	**Federal:** FT **State:** ST	Historically found throughout the lower and middle reaches of the Sacramento - San Joaquin Delta. Spawning takes place between December - April in side channels and sloughs in the middle reaches of the Delta.	Not expected - no suitable habitat on site

Table 2. Special Status Wildlife Species Potentially Occurring On Site

Scientific Name Common Name	Status[1]	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence On Site
Oncorhynchus kisutch Coho salmon (Central California Coast ESU)	**Federal:** FT **State:** SE	Critical habitat is designated to include all river reaches accessable to listed coho salmon from Punta Gorda south to the San Lorenzo River, including Mill Valley and Corte Madera Creeks, tributaries to San Francisco Bay. Also known from stream surveys in Aptos Creek.	Not expected - no suitable habitat on site
Oncorhynchus mykiss Steelhead (Central California Coast ESU)	**Federal:** FT **State:** None	The ESU includes all naturally spawned populations of steelhead (and their progeny) in California streams from the Russian River to Aptos Creek, and the drainages of San Francisco and San Pablo Bays eastward to the Napa River (inclusive), excluding the Sacramento-San Joaquin River Basin.	Not expected - no suitable habitat on site
Oncorhynchus mykiss Steelhead (Central Valley, California ESU)	**Federal:** FT **State:** None	The ESU includes all naturally spawned populations of steelhead (and their progeny) in the Sacramento and San Joaquin Rivers and their tributaries. Excluded are steelhead from San Francisco and San Pablo Bays and their tributaries. Little historical data exists for the San Joaquin River Basin. McEwan and Jackson (1996) reported a small remnant run in the Stanislaus River. Steelhead reported in Tuolumne River in 1983 and in Merced River. May have historically been in many of the San Joaquin River tributaries, especially during wet years.	Not expected - no suitable habitat on site
Oncorhynchus tshawytscha Chinook salmon (Central Valley fall/late fall-run ESU)	**Federal:** FC **State:** CSC	The ESU includes all naturally spawned populations of fall-run chinook salmon in the Sacramento and San Joaquin River Basins and their tributaries, east of Carquinez Strait, California. The following California counties contain major river basins with critical spawning and rearing habitat : Alameda, Butte, Calaveras, Colusa, Contra Costa, Glenn, Mariposa, Merced, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Santa Clara, Shasta, Solano, Stanislaus, Sutter, Tehama, Trinity, Tuolumne, Yolo, and Yuba.	Not expected - no suitable habitat on site
Pogonichthys macrolepidotus Sacramento splittail	**Federal:** None **State:** CSC	Restricted to the Sacramento River Delta, but originally endemic to lakes and rivers all over the Central Valley. Inhabit slow moving river sections and dead end sloughs. Believed to spawn over shoreline vegetation or over gravel in creek tributaries of large rivers during spring high water levels.	Not expected - no suitable habitat on site
Spirinchus thaleichthys Longfin smelt	**Federal:** None **State:** CSC	Inhabits estuaries and bays near to shore. Occurs along the Pacific coast from Alaska to the Monterey Bay. In the San Francisco Bay, its main populations are in San Pablo Bay. It ascends coastal streams from October to December to spawn. It is an important forage species.	Not expected - no suitable habitat on site

Table 2. Special Status Wildlife Species Potentially Occurring On Site

Scientific Name Common Name	Status[1]	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence On Site
Amphibians			
Ambystoma californiense California tiger salamander	**Federal:** FT **State:** CSC	Breeds in temporary or semi-permanent pools. Seeks cover in rodent burrows in grasslands and oak woodlands. Inhabits the Coast Ranges from Santa Barbara to Sonoma counties along the coast and inland to Colusa, Yolo and Tulare counties.	Not expected - no suitable aquatic or aestivation habitat on site
Rana (=aurora draytonii) draytonii California red-legged frog	**Federal:** FT **State:** CSC	Prefers semi-permanent and permanent stream pools, ponds, and creeks with emergent and/or riparian vegetation. Will occupy upland areas during the wet winter months.	Very Low - No suitable breeding habitat; potential dispersal habitat on site; Nearest siting over 4 miles away
Rana boylii Foothill yellow-legged frog	**Federal:** None **State:** CSC	Inhabits permanent, slow-moving stream courses in the Coast Ranges and Sierra Nevada foothills. These streams usually contain a cobble substrate and a mixture of open canopy riparian vegetation.	Not Expected- no suitable habitat on site
Spea hammondii Western spadefoot toad	**Federal:** None **State:** CSC	Breeds in temporary pools following winter and spring rains (January-May); larvae transform within 3 - 11 weeks. Aestivates in burrows in loose soils. Occurrs from Redding, Shasta County, southward into northwestern Baja California, Mexico, from sea level to elevations around 4500 feet. In California, their range is entirely west of the Sierran-desert range axis.	Not expected - no suitable habitat on site
Reptiles			
Clemmys marmorata Western pond turtle	**Federal:** None **State:** CSC	Prefers permanent, slow-moving creeks, streams, ponds, rivers, marshes, and irrigation ditches with basking sites and a vegetated shoreline. Needs upland sites for egg laying. Occurs from the Oregon border to the San Francisco Bay, inland throughout the Sacramento Valley, and south along the coastal zone to San Diego County.	Not expected - no suitable habitat on site
Phrynosoma coronatum frontale California horned lizard	**Federal:** None **State:** CSC	Occurs in scrub and grassland on sandy soils; active above ground between April and October. Preys primarily on native ant species. The species is thought to be extinct in this region based on museum specimens.	Not expected - no suitable habitat on site
Thamnosis sirtalis tetraenia San Francisco garter snake	**Federal:** FE **State:** SE CFP	Largest population occurs in San Mateo County. Smaller populations occur along the coast from Sharp Park to Ano Nuevo and east through the Santa Cruz Mountains. Use freshwater marshes, ponds and slow-moving streams and surrounding uplnad areas.	Not expected - no suitable habitat on site; study area is outside of known range

Table 2. Special Status Wildlife Species Potentially Occurring On Site

Scientific Name Common Name	Status[1]	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence On Site
Birds			
Accipiter cooperii Cooper's hawk (nesting site only)	**Federal:** None **State:** CSC	Nests primarily in deciduous riparian forests. May also occupy dense canopied forests from gray pine-oak woodland to ponderosa pine. Forages in open woodlands. Occurs throughout the San Francisco Bay Area.	High - Suitable nesting habitat present on site
Accipiter striatus Sharp-shinned hawk (nesting site only)	**Federal:** None **State:** CSC	Dense to open canopy pine or mixed conifer forest, riparian habitats, and grassland with scattered trees. Permanent resident in parts of the Sierra Nevada, Cascade, Klamath, and North Coast Ranges. Usually nests in conifers. Does not nest in San Francisco Bay Area.	High - Suitable nesting habitat present on site
Agelaius tricolor Tricolored blackbird (nesting colony)	**Federal:** None **State:** CSC	Nests primarily in dense freshwater marshes with cattail or tules. Forages in grasslands. Largely endemic to California. Permanent resident in the Central Valley and along the coast from Marin to San Diego Counties. Also known from Lake, Sonoma, and Solano Counties. Grasslands provide suitable foraging habitat only.	Not expected - no suitable habitat on site
Amphispiza belli belli Bell's sage sparrow	**Federal:** None **State:** CNDD B	Resident of the foothills of the Coast Ranges from northern California to northwestern Baja California and along the western slope of the central Sierra Nevada in California. Inhabits chaparral dominated by chamise and/or California sagebrush. Nests on the ground or in a shrub, up to about 1 m above ground.	Not expected - no suitable habitat on site
Aquila chrysaetos Golden eagle (nesting/wintering sites only)	**Federal:** None **State:** CSC CFP	Forages in a variety of habitats including grasslands, chaparral, and oak woodland supporting abundant mammals. Nests on cliffs and escarpments, and tall trees. Occurs throughout the San Francisco Bay Area.	Not expected - no suitable habitat on site
Asio otus Long-eared owl (nesting only)	**Federal:** None **State:** CSC	Breeds mainly in dense coniferous or mixed woodland, including riverine woodland belt. Nests in large, previously used nest of another bird species or squirrel. Nests up to 10-29 feet in height, more rarely on ground or among shrubby growth. Forages over open fields and marshes. Winters between southern Canada and Baja California.	Moderate - suitable nesting habitat present
Athene cunicularia hypugea Burrowing owl (burrow sites)	**Federal:** None **State:** CSC	Open, dry grasslands, deserts, prairies, farmland and scrublands with abundant active and abandoned mammal burrows. Occurs in lowlands throughout California.	Not expected - no suitable habitat on site

Table 2. Special Status Wildlife Species Potentially Occurring On Site

Scientific Name Common Name	Status[1]	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence On Site
Baeolophus inornatus Oak titmouse	**Federal:** None **State:** CNDD B	Resident from southwestern Oregon to Baja California. Inhabits oak and pine-oak woodland, arborescent chaparral, oak-riparian associations. Nest constructed in natural tree cavity, in old woodpecker hole, or bird box; 1-11 m above ground. Often seen in mixed species foraging flocks.	Detected on site
Buteo regalis Ferruginous hawk (wintering)	**Federal:** None **State:** CSC	Forages over open terrain in plains and foothills where there are abundant ground squirrels or other mammals. Does not nest in California. Common east of San Francisco Bay during the winter months.	Not expected - no suitable habitat on site
Calypte costae Costa's hummingbird	**Federal:** None **State:** CNDD B	Resident of southern California and Baja California, strays as far north as Canada. Desert and semi-desert, arid brushy foothills, chaparral; in migration and winter also in adjacent mountains and in open meadows and gardens. Most commonly in canyons and washes when nesting. Nests in tree, shrub, vine, or cactus, often about 1.5 m from ground, sometimes near water, often far from it. In chaparral, nests often at break along edge or in tall bush.	Not expected - no suitable habitat on site
Cardualis lawrencei Lawrence's goldfinch	**Federal:** None **State:** CNDD B	Breeds throughout northern and central California, winters in Baja California east to Texas. Inhabits oak woodland, chaparral, riparian woodland, pinyon-juniper association, and weedy areas in arid regions but usually near water. Often nests in dense foliage in conifers, 1-12 m above ground. Highly social; forms loose flocks of 20-30 birds. Flocks may include other species of goldfinches or other passerines.	Moderate - Suitable habitat present
Chaetura vauxi Vaux's swift (nesting)	**Federal:** None **State:** CSC	Nest and roost in cavities with a vertical entry, *e.g.* tree hollows, chimneys, etc. Breeds from coastal regions of southeast Alaska south to San Francisco Bay and within the Sierra Nevadas. Occurs in woodlands, and near lakes and rivers.	Not expected - no suitable habitat on site
Charadrius alexandrinus nivosus Western snowy plover (nesting)	**Federal:** FT **State:** CSC	Breed primarily on coastal beaches from southern Washington to Baja California. Sand spits, dune-backed beaches, unvegetated beach strands, open areas around estuaries, and beaches at river mouths are preferred nesting habitat.	Not expected - no suitable habitat on site
Circus cyaneus Northern harrier (nesting)	**Federal:** None **State:** CSC	Nests and forages in grasslands and agricultural fields. Nests on ground in shrubby vegetation, dense grass, or crops such as wheat and barley, often at the edge of marshes. Occurs throughout the San Francisco Bay Area.	Not expected - no suitable habitat on site

Table 2. Special Status Wildlife Species Potentially Occurring On Site

Scientific Name Common Name	Status[1]	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence On Site
Cypseloides niger Black swift (nesting)	**Federal:** None **State:** CSC	Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons. Favors mountainous and coastal cliff habitat. Forages widely. In California occurs from San Francisco south to San Luis Obispo, along the Sierra Nevada, San Bernadino and San Gabriel Mountains.	Not expected - no suitable habitat on site
Elanus leucurus White-tailed kite (nesting sites)	**Federal:** None **State:** CFP	Inhabits agricultural areas, low rolling foothills, valley margins with scattered oaks and river bottomlands, or marshes adjacent to deciduous woodlands. Prefers open grasslands, meadows, marshes, and agricultural fields for foraging. Occurs throughout the San Francisco Bay Area.	Moderate - suitable habitat on site
Empidonax traillii brewsteri Little willow flycatcher (nesting)	**Federal:** None **State:** SE	Inhabits riparian areas and wet meadows with abundant willows for breeding. Occurs in isolated areas in the foothills of the Sierra Nevada.	Not expected - no suitable habitat on site
Falco peregrinus anatum American peregrine falcon (nesting)	**Federal:** None **State:** CFP SE	Nests and roosts on protected ledges of high cliffs, usually adjacent to lakes, rivers, or marshes. Permanent resident in the North and South Coast Ranges. Winters in the Central Valley southward through the Transverse and Peninsular Ranges. Feeds almost exclusively on birds.	Not expected - no suitable habitat on site
Geothlypis trichas sinuosa Salt marsh common yellowthroat	**Federal:** None **State:** CSC	Known througout the Bay Area from Napa to Santa Cruz Counties. Nests in freshwater marshes in the spring and summer and moves into tidal sloughs and channels during the winter. Requires contiguous freshwater and salt water marsh habitats.	Not expected - no suitable habitat on site
Haliaeetus leucocephalus Bald eagle	**Federal:** FT **State:** CFP SE	Typically forage over large bodies of water, or large free-flowing rivers. Fish are their primary prey item, but they will also feed on waterfowl. Nests are built in tall trees near water bodies that support fish and waterfowl populations.	Not expected - no suitable habitat on site
Lanius ludovicianus Loggerhead shrike	**Federal:** None **State:** CSC	Nests in woodland and scrub habitats at margins of open grasslands. Often uses lookout perches such as fence posts. Resident and winter visitor in lowlands and foothills throughout California.	Not expected - no suitable habitat on site

Table 2. Special Status Wildlife Species Potentially Occurring On Site

Scientific Name Common Name	Status[1]	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence On Site
Laterallus jamaicensis coturniculus California black rail	**Federal:** None **State:** ST CFP	Secretive marsh bird found in damp areas with dense grass. Year-round resident in the greater Bay Area and more recently have been recorded from the Sierra Foothills. Inhabits tidal marshes, grassy marshes, stubble fields and wetlands. Nesting habitat is characterized by unfluctuating water levels with a depth of less than 3 cm and dense vegetative cover.	Not expected - no suitable habitat on site
Melanerpes lewis Lewis' woodpecker	**Federal:** None **State:** CNDD B	Resident across most of the western United States, though rare in the San Francisco Bay Area. Important habitat features include an open tree canopy, a brushy understory with ground cover, dead trees for nest cavities; dead or downed woody debris, perch sites, and abundant insects. Uses open ponderosa pine forests, open riparian woodlands dominated by cottonwood (*Populus* spp.), and logged or burned pine. Also uses oak (*Quercus* spp.) woodlands, orchards, pinyon-juniper woodlands, other open coniferous forests, and agricultural lands. Apparently prefers open ponderosa pine at high elevations and open riparian forests at lower elevations. Often use burned pine forests, although suitability of postfire habitats varies with the age,	Not expected - no suitable habitat on site
Melospiza melodia pusillula Alameda song sparrow	**Federal:** None **State:** CSC	Occurs only along the southern and eastern fringes of the San Francisco Bay. Inhabits salt marsh habitats with dense vegetation, and upland habitats for refugia.	Not expected - no suitable habitat on site
Picoides nuttallii Nuttall's woodpecker	**Federal:** None **State:** CNDD B	Resident throughout California west of the Sierra Nevada Mountains. Inhabits oak forest and woodland, chaparral and riparian (especially willow-cottonwood) woodland. Extensively uses *Quercus douglasii* during the breeding season. Both sexes dig out a cavity in a tree, 1-18 m above ground.	High - suitable habitat on site
Rallus longirostris obsoletus California clapper rail	**Federal:** FE **State:** SE CFP	Inhabits tidal salt marshes of the greater San Francisco Bay, although some individuals use brackish marshes during the spring breeding season. It formerly occurred at Humboldt Bay in Humboldt County, Elkhorn Slough in Monterey County, and Morro Bay in San Luis Obispo County.	Not expected - no suitable habitat on site
Riparia riparia Bank swallow (nesting colonies only)	**Federal:** None **State:** ST	Nests in colonies on sandy cliffs near water, marshes, lakes, streams, and the ocean. Forages in fields. Largest remaining populations occur along the Sacramento River from Tehama County to Sacramento County. Also found along the Feather and lower American Rivers, and in the Owens Valley. Breeding populations also present in San Francisco County, and at Año Nuevo in southern San Mateo County.	Not expected - no suitable habitat on site

Table 2. Special Status Wildlife Species Potentially Occurring On Site

Scientific Name Common Name	Status[1]	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence On Site
Lateralius jamaicensis coturniculus California black rail	**Federal:** None **State:** ST CFP	Secretive marsh bird found in damp areas with dense grass. Year-round resident in the greater Bay Area and more recently have been recorded from the Sierra Foothills. Inhabits tidal marshes, grassy marshes, stubble fields and wetlands. Nesting habitat is characterized by unfluctuating water levels with a depth of less than 3 cm and dense vegetative cover.	Not expected - no suitable habitat on site
Melanerpes lewis Lewis' woodpecker	**Federal:** None **State:** CNDDB	Resident across most of the western United States, though rare in the San Francisco Bay Area. Important habitat features include an open tree canopy, a brushy understory with ground cover, dead trees for nest cavities; dead or downed woody debris, perch sites, and abundant insects. Uses open ponderosa pine forests, open riparian woodlands dominated by cottonwood (*Populus* spp.), and logged or burned pine. Also uses oak (*Quercus* spp.) woodlands, orchards, pinyon-juniper woodlands, other open coniferous forests, and agricultural lands. Apparently prefers open ponderosa pine at high elevations and open riparian forests at lower elevations. Often use burned pine forests, although suitability of postfire habitats varies with the age.	Not expected - no suitable habitat on site
Melospiza melodia pusillula Alameda song sparrow	**Federal:** None **State:** CSC	Occurs only along the southern and eastern fringes of the San Francisco Bay. Inhabits salt marsh habitats with dense vegetation, and upland habitats for refugia.	Not expected - no suitable habitat on site
Picoides nuttallii Nuttall's woodpecker	**Federal:** None **State:** CNDDB	Resident throughout California west of the Sierra Nevada Mountains. Inhabits oak forest and woodland, chaparral and riparian (especially willow-cottonwood) woodland. Extensively uses *Quercus douglasii* during the breeding season. Both sexes dig out a cavity in a tree, 1-18 m above ground.	High - suitable habitat on site
Rallus longirostris obsoletus California clapper rail	**Federal:** FE **State:** SE CFP	Inhabits tidal salt marshes of the greater San Francisco Bay, although some individuals use brackish marshes during the spring breeding season. It formerly occurred at Humboldt Bay in Humboldt County, Elkhorn Slough in Monterey County, and Morro Bay in San Luis Obispo County.	Not expected - no suitable habitat on site
Riparia riparia Bank swallow (nesting colonies only)	**Federal:** None **State:** ST	Nests in colonies on sandy cliffs near water, marshes, lakes, streams, and the ocean. Forages in fields. Largest remaining populations occur along the Sacramento River from Tehama County to Sacramento County. Also found along the Feather and lower American Rivers, and in the Owens Valley. Breeding populations also present in San Francisco County, and at Año Nuevo in southern San Mateo County.	Not expected - no suitable habitat on site

Table 2. Special Status Wildlife Species Potentially Occurring On Site

Scientific Name Common Name	Status[1]	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence On Site
Selasphorus sasin Allen's hummingbird	**Federal:** None **State:** CNDDB	Breeds throughout coastal California south to Santa Barbara. Chaparral, thickets, brushy hillsides, open coniferous woodlands, and gardens near the coast, often in ravines and canyons. Nests on twigs or forks of trees or shrubs, sometimes on stalks of plants, among vines, or occasionally in buildings.	Not expected - no suitable habitat on site
Sterna antillarum browni California least tern	**Federal:** FE **State:** SE	Nests on sand dunes close to water. mixes freely with other terns. Nesting sites range from San Francisco Bay to Baja California.	Not expected - no suitable habitat on site
Mammals			
Antrozous pallidus Pallid bat	**Federal:** None **State:** CSC	Large range in western North America; fairly common in many areas; however, regional population trends are poorly known. Inhabits open, dry habitats such as deserts, grasslands, and shrublands with rocky areas for roosting. Roosts in caves, mine tunnels, crevices in rocks, buildings, and trees. Bats are very sensitive to disturbance of roosting sites. Forages in open habitats.	Low - marginally suitable roosting and foraging habitat on site
Corynorhinus (=Plecotus) townsendii townsendii Townsend's western big-eared bat	**Federal:** None **State:** CSC	Roosting sites include caves, mine tunnels, abandoned buildings, and other structures. Inhabits a variety of plant communities including coastal conifer and broad-leaf forests, oak and conifer woodlands, arid grasslands, and deserts. Most commonly associated with mesic sites. Highly sensitive to human disturbances; a single visit by humans can cause bats to abandon roosts.	Not expected - no suitable habitat on site
Eumops perotis californicus Western Mastiff Bat	**Federal:** None **State:** CSC	Roosts in cliff faces and buildings. Ranges from California to Texas.	Not expected - no suitable habitat on site
Myotis evotis Long-eared myotis bat	**Federal:** None **State:** CNDDB	Inhabits thinly forested areas around buildings or trees. Occasionally found in caves. Does not occur in large colonies. Distributed throughout the western U.S.	Low - marginally suitable roosting and foraging habitat on site
Myotis thysanodes Fringed myotis bat	**Federal:** None **State:** CNDDB	Roosts in colonies in caves and attics of old buildings. Distributed throughout the western U.S. and into Mexico. Most frequent in coastal and montane forests and around mountain meadows.	Very low - marginally suitable habitat on site
Myotis volans Long-legged myotis bat	**Federal:** None **State:** CNDDB	Roosts colonially in buildings, small pockets and crevices in rock ledges, and exfoliating tree bark and hollows within snags. Distributed throughout the western U.S., Mexico, and Canada.	Low - marginally suitable roosting and foraging habitat on site

Table 2. Special Status Wildlife Species Potentially Occurring On Site

Scientific Name Common Name	Status[1]	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence On Site
Myotis yumanensis Yuma myotis bat	**Federal:** None **State:** CNDDB	Roosts colonially in caves, tunnels, trees and buildings. Inhabits arid regions. Distributed throughout the western U.S., Mexico, and Canada.	Low - marginally suitable roosting and foraging habitat on site
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	**Federal:** None **State:** CSC	Evergreen or live oaks and other dense, thick-leaved trees and shrubs are important habitat components for this species. In riparian areas, highest densities of woodrats and their houses are often encountered in willow thickets with an oak overstory. Typically build large houses on the ground in thickets made of twigs, leaves, and debris.	Low - marginally suitable habitat on site
Reithrodontomys raviventris Salt marsh harvest mouse	**Federal:** FE **State:** SE CFP	Restricted to saline emergent wetlands of San Francisco Bay and its tributaries. Habitat consists primarily of pickleweed. Does not burrow; builds loose nests. Requires high ground to escape high tides and floods.	Not expected - no suitable habitat on site
Sorex vagrans halicoetes Salt marsh wandering shrew	**Federal:** None **State:** CSC	Occur in the tidal salt marshes of the south San Francisco Bay.	Not expected - no suitable habitat on site
Taxidea taxus American badger	**Federal:** None **State:** CSC	Inhabits open grasslands, savannas, and mountain meadows near timberline. Requires abundant burrowing mammals, their principal food source, and loose, friable soils. Believed restricted in California to the Central Valley and adjacent lowlands to the west.	Not expected - no suitable habitat on site

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[1] Explanation of sensitivity status codes provided in Appendix C.

4.3.3 Sensitive Habitats

Sensitive natural communities are those that are considered rare in the region, support special-status plant or wildlife species, or receive regulatory protection (*i.e.*, §404 of the Clean Water Act and/or the §§1600 *et seq.* of the California Fish and Game Code). In addition, the CNDDB has designated a number of communities as rare; these communities are given the highest inventory priority (Holland 1986, CDFG 2003).

Three sensitive habitats (including two natural plant communities) were found within Adobe Creek Upper Reach 5:

- Remnant Coast Live Oak Riparian Forest
- Coastal and Valley Freshwater Marsh
- Aquatic Habitat (Seasonally Dry, Unvegetated Waters of the U.S.).

The first two sensitive habitats were discussed in *Section 4.1* and their regulatory status is presented below. For Aquatic Habitat a general discussion is included below followed by its regulatory status.

Remnant Central Coast Live Oak Riparian Forest

Central coast live oak riparian forest is regulated by Section 1600 of the Fish & Game Code by the California Department of Fish & Game. It is likely also under regulation under the Porter-Cologne Act by the San Francisco Regional Water Quality Control Board.

Coastal and Valley Freshwater Marsh

Coastal and valley freshwater marsh is regulated under Section 401 and Section 404 of the federal Clean Water Act (U.S. Army Corps of Engineers and U.S. Environmental Protection Agency, and by the San Francisco Regional Water Quality Control Board). Coastal and valley freshwater marsh is regulated by Section 1600 of the Fish & Game Code by the California Department of Fish & Game. It is also under regulation under the Porter-Cologne Act by the San Francisco Regional Water Quality Control Board.

Aquatic Habitat (Seasonally Dry, Unvegetated Waters of the U.S.)

Aquatic habitat (seasonally dry, unvegetated waters of the U.S.) falls within the limits of ordinary high water within the active stream channel, where the water table is near the surface of the alluvial sand and gravel. It is likely that aquatic habitat on the site could seasonally support steelhead (*Oncorhynchus mykiss*), federally-listed Threatened, since steelhead were historically present in Adobe Creek and nearby streams, however steelhead are considered extirpated from the stream (Leidy *et al.* 2005). Any future upstream migration of fish from the bay into Adobe Creek Reach 5 would require the removal of impassable drop structure(s) currently present downstream of the study area.

Aquatic habitat as found on site is subject to the same regulations as Coastal and Valley freshwater Marsh.

5.0 ANTICIPATED PROJECT IMPACTS

A summary of construction related impacts to vegetation communities and aquatic habitats for the proposed project, including potential impacts to federal and state jurisdictional wetlands and other waters, is presented in Table 3. The impact analysis of the proposed project is for CEQA purposes. Two classes of CEQA impacts were identified: direct impacts (*e.g.*, grading and realigning the channel and installation of instream or bank stabilization structures) and indirect impacts (caused by the action but are later in time or further removed in distance from the direct impacts *e.g.*, impacts to water quality, wildlife corridor movements, colonization of graded areas by invasive species including unwanted plant species and feral animals). Finally, a finer level of impact analysis was conducted to subdivide the direct impacts into those that are permanent and those that are temporary in nature. Installation of instream rock weirs, rip rap, and crib-walls are considered permanent, direct impacts. Grading necessary for reconfiguring, realigning and other activities related to flood protection are considered temporary as those areas will be re-vegetated and anticipated to return to a stable riparian and grassland area post-construction.

The areas analyzed include the grading and work area limits defined by the project engineer as illustrated in Figure 4 (Impacts to Jurisdictional Features) and the Preliminary Plans dated December 20, 2006, presented in Appendix A.

Table 3. Direct Impacts of the Proposed Project to Vegetation Communities and Aquatic Habitat

Proposed Project, Access Points, and Staging Areas

Plant Community/Habitat Impacts	Impacts					
	Permanent Impacts			Temporary Impacts		
	Square Feet	Acres	Linear Feet	Square Feet	Acres	Linear Feet
Waters of the U.S.						
Unvegetated Waters (Aquatic Habitat)	4,797	0.11	431	7,451	0.17	613
Freshwater Marsh	964	0.02	104	1,345	0.03	86
Total Waters of the U.S.	5,761	0.13	535	8,796	0.20	699
Waters of the State						
Top of Bank (Includes All Waters of the U.S.)	9,903	0.23	535	19,378	0.44	699
Native Riparian Canopy	525	0.01	0	4,431	0.10	0
Non-Native Riparian Canopy	1,995	0.05	0	17,192	0.39	0
Non-Native Riparian Canopy With Hardscape Understory	0	0.00	0	1,106	0.03	0
Total Waters of the State (Total Project Impacts)	12,423	0.29	535	42,107	0.97	699
Ruderal Landscape/Hardscape Above Top of Bank	31	<0.01	0	42,406	0.97	0

Overlays showing the direct impacts of the proposed project on biological resources are depicted in Figure 4 Impacts to Jurisdictional Features.

5.1 Impacts to Vegetation Communities and Aquatic Habitats

The proposed project has the potential to directly (both permanently and temporarily) impact all four plant communities found within Adobe Creek Upper Reach 5 including: non-native riparian canopy, ruderal landscape/hardscape, remnant central coast live oak riparian forest (native riparian canopy), and coastal and valley freshwater marsh. Non-native riparian canopy is further broken down into non-native riparian canopy with hardscape understory for purposes of calculating habitat and jurisdictional impacts. The proposed project would also affect unvegetated waters (aquatic habitat).

The area of proposed permanent and temporary impact to each plant community and aquatic habitat is listed in Table 3 and shown on Figure 4 Impacts to Jurisdictional Features. Permanent impacts to USACE jurisdictional wetlands total 0.13 acre and temporary impacts total 0.20 acre. Proposed impacts to waters of the state are calculated for all work that will occur within top of bank (including USACE jurisdictional wetlands) and the outermost limits of riparian canopy. Measurements given in Table 3 and on Figure 4 for riparian canopy and ruderal landscape/hardscape are for areas falling outside top of bank. Permanent impacts to state jurisdictional areas total 0.29 acre and temporary impacts total 0.97 acre. Ruderal landscape/hardscape above top-of-bank is not considered state jurisdictional; however, temporary impact calculations for staging areas and access points, which total 0.97 acre, are provided in Table 3 and temporary disturbance areas are shown on Figure 4.

Temporary impacts would include but not be limited to trimming of coast live oak trees immediately adjacent to areas to be graded shown on Figure 4. While the proposed project will result in temporary impacts to 0.44 acre within top-of-bank (which includes 0.03 acre of freshwater marsh and 0.17 acre of seasonal, unvegetated Waters of the U.S), 0.10 acre of native riparian forest canopy, 0.39 acre of non-native riparian forest canopy, and 0.03 acre of non-native riparian forest canopy with hardscape understory, for a total of 0.97 acre of temporary impacts to federal and state jurisdictional habitats, these habitats will be restored as part of the project; therefore these direct impacts are considered "temporary."

5.2 Impacts to Sensitive Plants

The initial site reconnaissance indicated a low potential for undiscovered populations of Oakland star-tulip (*Calochortus umbellatus*), California Native Plant Society List 4, Santa Clara red ribbons (*Clarkia concinna* ssp. *automixa*), California Native Plant Society List 4, and Michael's rein orchid (*Piperia michaelii*), California Native Plant Society List 4, to occur within the project area based on the presence of potential habitat. Potential habitat for these plant species corresponds with the polygons mapped as native and non-native riparian canopy on Figure 3, Plant Communities. Focused botanical surveys of the study area were completed in 2006 during the appropriate survey windows for these species and resulted in negative findings. Therefore, special-status plant species are presumed absent from the project area and impacts to these sensitive species are not anticipated with implementation of the project.

5.3 Impacts to Sensitive Wildlife

Special-Status Species Birds and Mammals

The proposed project is expected to have temporary and permanent impacts to approximately one acre of native and non-native riparian canopy and one acre of ruderal landscape/hardscape, which provide potential nesting and foraging habitat for a number of bird species including special-status species that occur in the region such as the long-eared owl and Cooper's hawk, both California Species of Special Concern. The large trees within the project area also provide potential roost sites for special-status bat species. The removal of 63 large trees and shrubs will result in the permanent loss of potential nest and/or roost sites. If construction occurs during the nesting season, the noise and vibrations associated with construction activities will result in temporary disturbance to potential nest and/or roost sites within trees adjacent to the project area. Disturbance of nest sites can result in nest abandonment, damage to eggs and/or chicks, and premature fledging. Removal of trees and shrubs within the project area during the nesting season could result in the loss of active nest sites, eggs, chicks, and/or adult birds. Removal of large trees within the project area could also result in the loss of individual roosting bats. Although re-vegetation of the trees and shrubs that would be removed for project construction is proposed, roosting bats that may be utilizing the area now would not be able to return to the restored habitat areas for many years, until the trees reached maturity. This is an impact with an associated lengthy temporal loss of up to 20 years. Since the timeframe for the habitat to be utilized by bat species is so long, it could be considered a permanent impact.

The proposed project includes impacts to approximately one acre of potential habitat for the San Francisco dusky-footed woodrat within the native and non-native riparian canopy. If woodrats are present, the project may result in the loss of individuals. If loss of individual dusky-footed woodrat were to occur, it would be a permanent direct impact. Pre-construction surveys for potentially nesting birds, roosting bats, and dusky footed woodrat are recommended to avoid loss of individuals or active nest/roost sites. If these species are present within the project area and complete avoidance is not possible, appropriate non-disturbance buffers should be erected until nesting is complete and/or bats leave the roost at dusk, thereby minimizing direct impacts to these species.

Special-Status Amphibians

The proposed project includes impacts to 0.05 acres of freshwater marsh habitat and 0.28 acre of seasonal, unvegetated Waters of the U.S. As such, the project will result in the loss of 0.33 acre of potential aquatic habitat for California red-legged frog, federally-listed Threatened and a California Species of Special Concern. If California red-legged frog adult, eggs, or larvae are present within the stream channel or adjacent upland habitats during construction the project could result in the loss of individuals, which would be a permanent direct impact. Pre-construction surveys are recommended to minimize potential direct impacts to California red-legged frog. The project proposes to re-create the aquatic habitat that will be removed. Post-construction, the project area will at a minimum provide potential aquatic dispersal and possibly breeding habitat for amphibian species. Coastal and valley freshwater marsh and aquatic (seasonally wet, unvegetated waters of the U.S.) habitat will be re-created as part of the project and would be available to special-status amphibians within two to three years; therefore, the direct impacts to sensitive wildlife habitat for California red-legged frog, federally-listed Threatened and a California Species of Special Concern are considered "temporary" and not "permanent."

Temporary Construction Related Impacts to Aquatic Species

Short term, temporary construction impacts to the aquatic environment will be minimal if the streambed is dry during the construction period. Any dewatering needed would involve temporary loss of aquatic habitat in the dewatered areas. Aquatic organisms can be removed from construction areas prior to dewatering and relocated to other parts of the stream. Potential impacts from this activity include inability to relocate certain types of organisms, incomplete relocation of other organisms, losses due to handling, spread of disease, and overcrowding in relocation areas. Most aquatic organisms are expected to re-colonize affected areas within a relatively short time following construction activities as long as post-project habitat conditions are suitable (see following section). Dewatering of work areas will avoid impacts related to sediment mobilization and deposition (HES 2005).

Permanent Habitat Alteration Effects on Fishes[1]

Creek channel improvements upstream of the Robleda Storm Drain include placement of rock riprap along the channel bottom and slopes upstream of West Edith Avenue Bridge. Natural substrate in this area appears to consist primarily of sand and gravel. Rock riprap is inappropriate for spawning of most native fishes including, Sacramento suckers, and other stream fish potentially present. Some species such as sculpins and juveniles of other species may use riprap for cover.

This project would remove and reconstruct a wing wall downstream of the West Edith Avenue Bridge and re-grade the stream channel to a 40 to 55-foot wide channel consisting of a 15-foot wide by 1.5-foot deep bank full channel bordered by a 9-foot wide vegetated mid-bank bench, and channel banks sloped at 1:1 or flatter above the mid-bank bench. Streambed fill material placed along the channel bottom may be inappropriate for spawning or feeding of native fish species or production of aquatic invertebrates. Rock riprap placed along the banks on the outside of channel bends will prevent development of root structures and growth of large shade trees such as redwoods that currently line the stream on the east bank. Although rock riprap provides cover for some native fish species it is not usually as extensive or as good quality as undercut tree roots. Loss of mature trees during construction will result in a loss of habitat quality by reducing shading, cover, and bank stability. The stream channel upstream of Robleda storm drain is relatively confined in its present state. The project would create a 40 to 55-foot wide channel with a 15-foot wide, 1.5-foot deep bank full channel, which is wider than the existing channel. Increased channel width may result in shallower depth of flow, reduced suitability for fish passage, and altered sediment deposition and scour features, and separation of habitat features from the low flow channel (undercut banks, undercut root masses, overhanging terrestrial vegetation etc.).

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[1] This analysis was based on the findings in the Hagar Environmental Science report (see Appendix D). Although the HES analysis used a project alternative with slightly different dimensions, the numbers are similar enough for the findings to be consistent.

Removal of concrete, shotcrete, sacked concrete, concrete rubble, and wood retaining walls potentially benefits aquatic habitat by restoring natural geomorphic process in the stream channel. Removal of the existing grade control structures and installation of low rock weirs will remove a barrier to fish migration. If properly constructed, the rock weirs will result in formation of deep pools and graded substrate with gravel accumulations at the tail of the pools. Creation of such pools potentially benefits native fish populations, particularly if integrated with appropriate riparian plantings.

Channel bottom and bank erosion repair downstream of Robleda Storm Drain consisting of placement of rock riprap along the channel bottom and banks would result in replacement of native sand, gravel, and cobble substrate with rock riprap. As indicated previously, rock riprap may provide suitable cover for some species of native fish but diminishes the quality of habitat for spawning and possibly for other life history stages (feeding). Rock riprap bank installations are generally incompatible with development of quality riparian habitat consisting of large mature shade trees such as alder, redwood, and maple that have well developed root systems that interact with stream hydraulics to form high quality instream cover. Removal of mature riparian trees and riprap bank installations may lead to less riparian shading, warmer water temperature, and lower quality bank cover and habitat structure development.

5.4 Impacts to Wildlife Corridors

The project as it is proposed will actually improve the quality of this movement corridor by removing barriers to upstream fish migration and improving the overall health of the riparian ecosystem. With respect to fish and other aquatic organisms, there may be temporary impacts to movement within the creek corridor during construction; however, these impacts should be minimal provided the work is done during the dry season.

The riparian corridor is made up primarily of non-native ornamental vegetation, which provides limited habitat, as compared to what would be present if the vegetation was in a more natural state. Some of this would be lost to the expansion of the creek channel, however, re-vegetation should, in the long term, improve the quality of this corridor for wildlife movement.

5.5 Summary of Direct and Indirect Impacts

A summary of direct construction related impacts to plant communities and other habitat for the proposed project, access points, and staging areas appears in Table 3 and impacts are illustrated in Figure 4 Impacts to Jurisdictional Features. Indirect impacts are impacts caused by the action but are later in time or further removed in distance from the direct impact area. These include potential impacts to water quality from mass grading during construction or post-construction conditions that may affect water quality in the long term. Indirect water quality impacts are not expected as a result of the proposed project. In addition, during construction potential indirect impacts to the Adobe Creek wildlife corridor, such as impediments to local wildlife movement may occur; however, the urbanized nature of Adobe Creek and its environs, the presence of drop structures and exotic plant species reduce significantly the value of this corridor for use by wildlife. Post construction, the proposed project plans include re-vegetation with native species that could actually increase the value of this reach of the creek for wildlife movement. Therefore, indirect, permanent impacts to wildlife corridor movement are not expected to result form the proposed flood protection project. Finally, an additional indirect impact could potentially include colonization of graded areas by invasive species including unwanted plant species and feral animals. Re-vegetation of the graded areas with native species coupled with implementation of a mitigation and monitoring plan intended to ensure planted native species are successful significantly reduces the potential for this indirect impact to occur. Construction impacts of the proposed project, alternatives, and staging areas are summarized in Table 3.

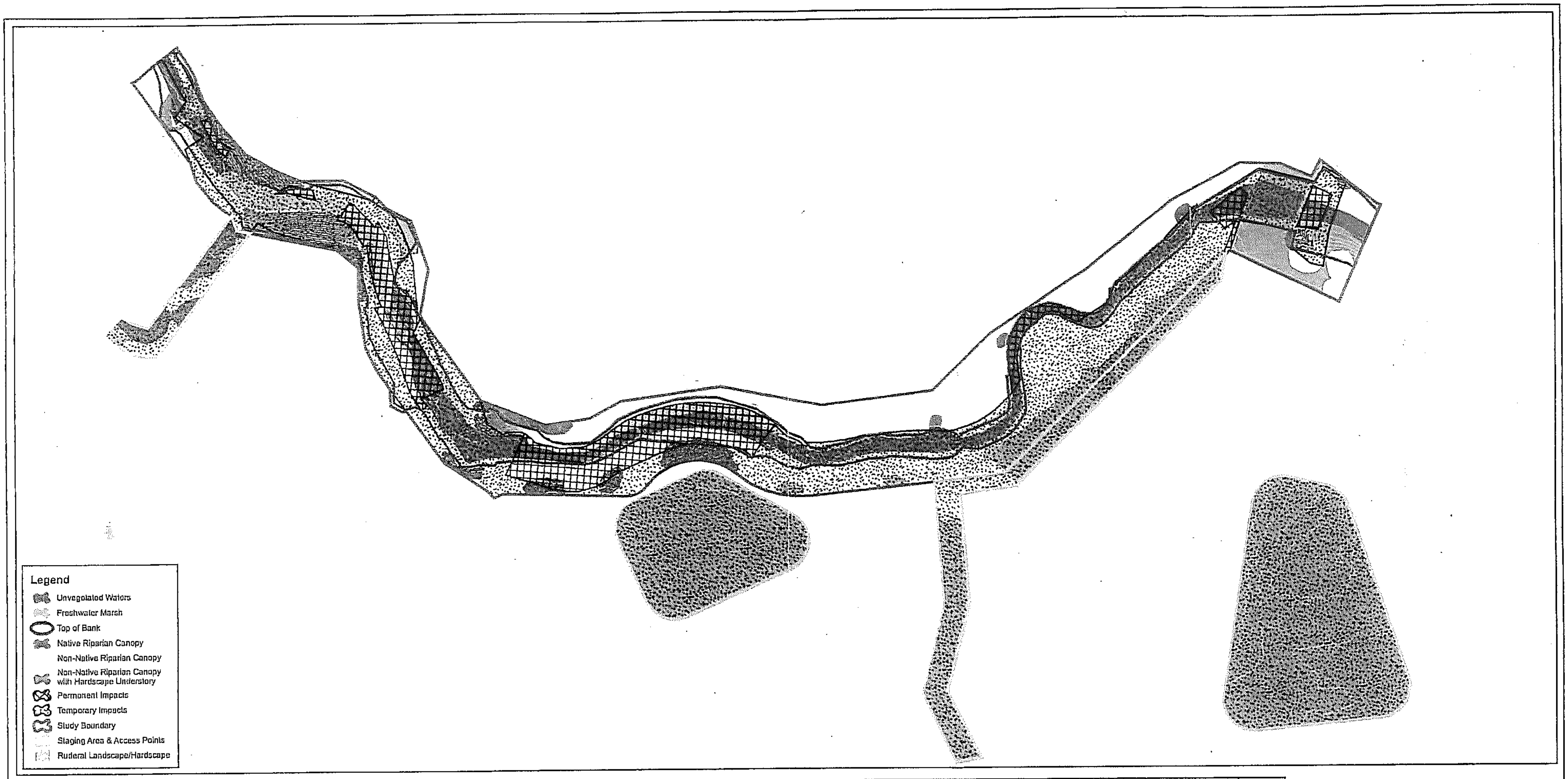

Legend
Unvegetated Waters
Freshwater Marsh
Top of Bank
Native Riparian Canopy
Non-Native Riparian Canopy
Non-Native Riparian Canopy with Hardscape Understory
Permanent Impacts
Temporary Impacts
Study Boundary
Staging Area & Access Points
Ruderal Landscape/Hardscape

Figure 4

Impacts to Jurisdictional Features

Adobe Creek Upper Reach 5
Santa Clara Valley Water District

Los Altos & Los Altos Hills, Santa Clara County, California
Revised 1/24/07

This document provided for the sole use of the Santa Clara Valley Water District. Topographic contours provided by the Santa Clara Valley Water District. Biological conditions as noted during field reconnaissance (2005-2007). Conditions may vary and may be revised at a later date. This document is not intended for detailed design work.

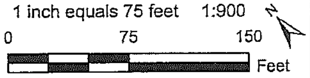
S:\Projects\EDAW\EDAW 1 - Santa Clara Valley Water District Staff Extension\Adobe Upper Reach 5\Graphics\GIS\Task 33\Wetland Impacts 011707.mxd

USACE Impacts		sq. ft.	acres	lin. ft.
Unvegetated Waters	Permanent	4,797	0.11	431
	Temporary	7,451	0.17	613
Freshwater Marsh	Permanent	964	0.02	104
	Temporary	1,345	0.03	86
Total USACE Impacts	Permanent	5,761	0.13	535
	Temporary	8,796	0.20	699

State Impacts		sq. ft.	acres	lin. ft.
Top of Bank (includes all waters of the U.S.)	Permanent	9,903	0.23	535
	Temporary	19,378	0.44	699
Native Riparian Canopy*	Permanent	525	0.01	0
	Temporary	4,431	0.10	0
Non-Native Riparian Canopy*	Permanent	1,995	0.05	0
	Temporary	17,192	0.39	0
Non-Native Riparian Canopy with Hardscape Understory*	Permanent	0	0.00	0
	Temporary	1,106	0.03	0
Total State Impacts	Permanent	12,423	0.29	535
	Temporary	42,107	0.97	699

*Measurements given for riparian canopy and ruderal/hardscape are for areas falling outside top of bank.

1 inch equals 75 feet 1:900



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Personal Communications

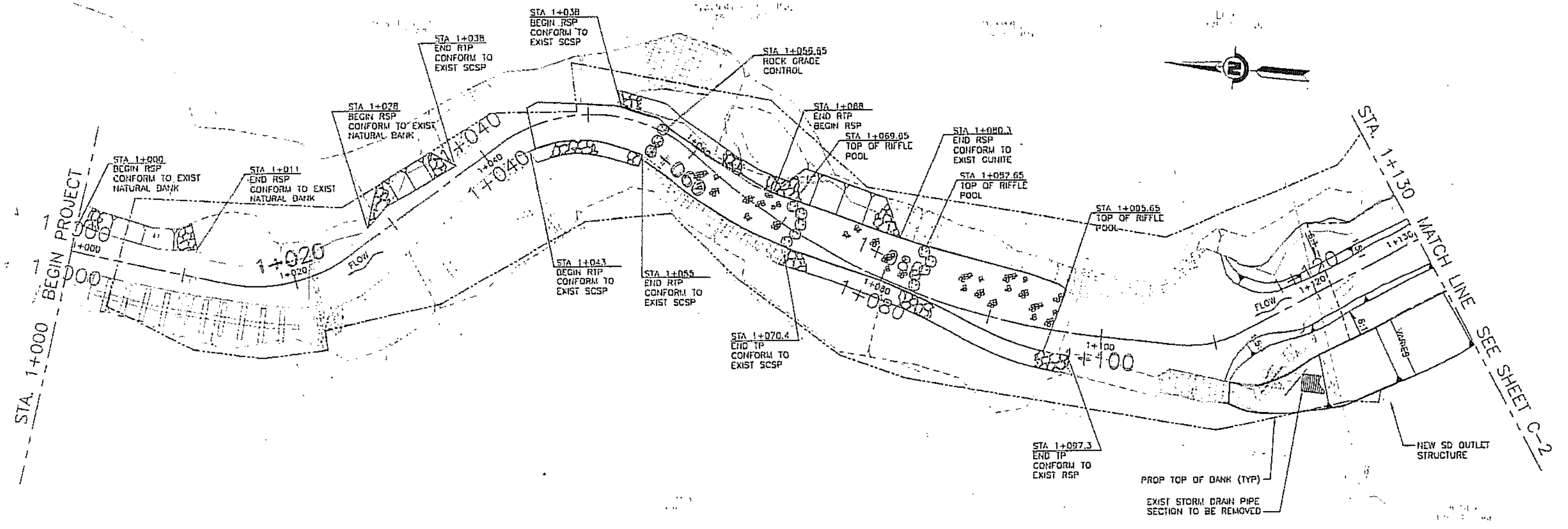
Jennings, Mark R. Biologist. Rana Resources. Davis, CA. Email correspondence with Matthew Bettelheim of Sycamore Associates LLC. January 30th and 31st, 2003.

APPENDIX A

Preliminary Project Plan

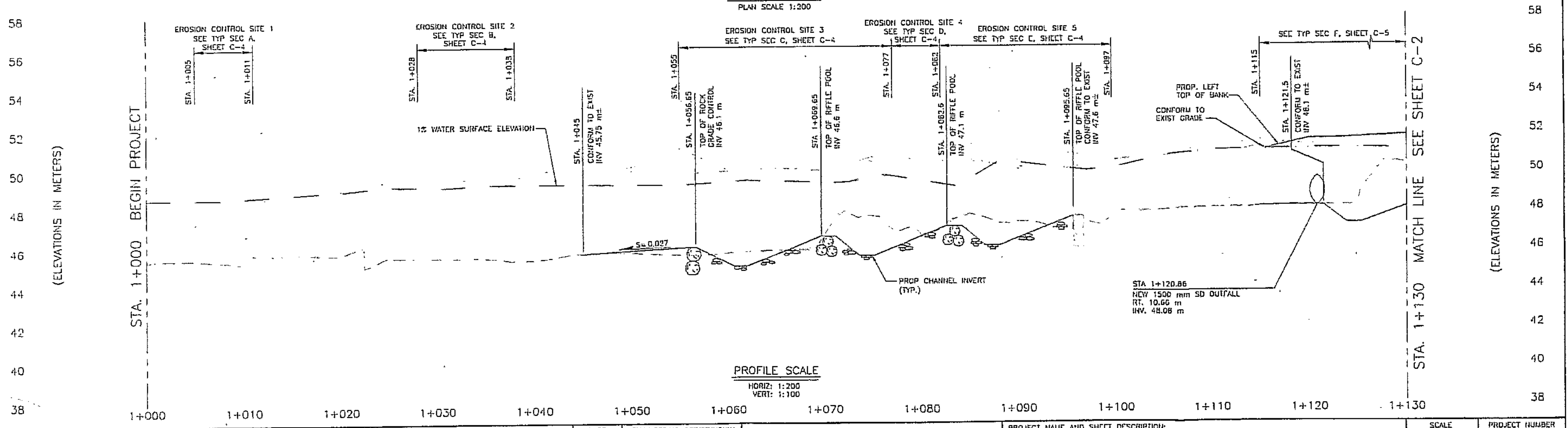
12/20/06

Sheets C-1 through C-5



PLAN SCALE

PLAN SCALE 1:200



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VERT: 1:100

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	PRELIMINARY 12-20-06		

REFERENCE INFORMATION AND NOTES

1. AERIAL PHOTO WAS TAKEN IN JUNE 2002.

DATE	11/06/06
DESIGN	C. CHUNG
DRAWN	J. WHITE
CHECKED	T. NOAH

ENGINEERING CERTIFICATION

TONY TEGIECH NOAH
No. C47834
Exp. 06/30/07

PROJECT ENGINEER MM-DD-YY

Santa Clara Valley Water District

PROJECT NAME AND SHEET DESCRIPTION:

ADOBE CREEK UPPER REACH 5
RESTORATION PROJECT

PLAN AND PROFILE
STA 1+000 TO STA 1+130

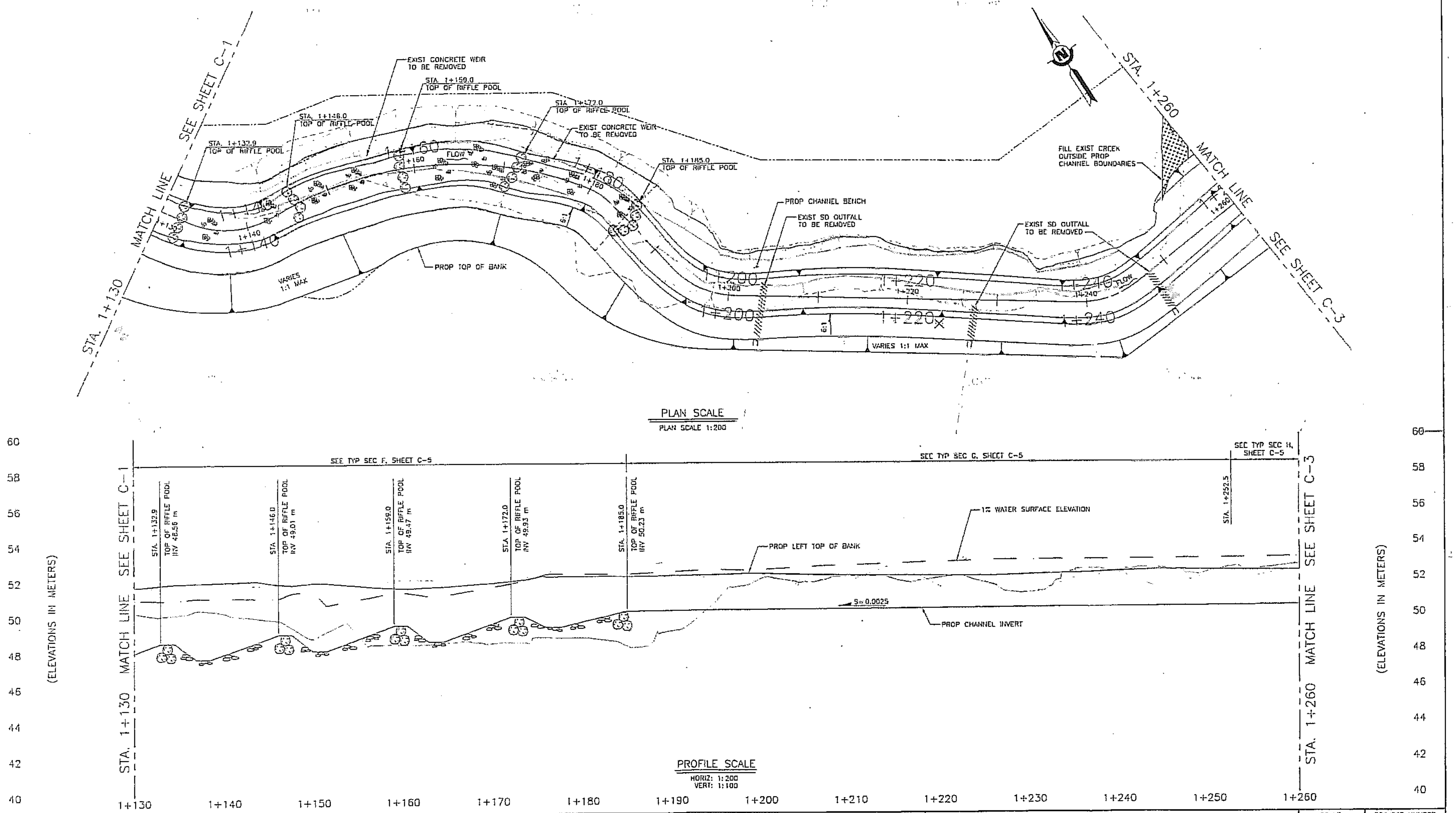
SCALE
AS SHOWN

VERIFY SCALES
0 25
BAR IS 25 MILLIMETERS ON ORIGINAL DRAWING IF NOT ADJUST SCALES ACCORDINGLY

PROJECT NUMBER
10104011

SHEET CODE:
C-1

PAGE NUMBER:
8 OF 12


EXIST CONCRETE WEIR TO BE REMOVED
STA. 1+159.0 TOP OF RIFFLE POOL
STA. 1+146.0 TOP OF RIFFLE POOL
STA. 1+132.9 TOP OF RIFFLE POOL
STA. 1+172.0 TOP OF RIFFLE POOL
EXIST CONCRETE WEIR TO BE REMOVED
STA. 1+185.0 TOP OF RIFFLE POOL
FLOW
SEE SHEET C-1
MATCH LINE
STA. 1+130
VARIES 1:1 MAX
PROP TOP OF BANK
6:1
PROP CHANNEL BENCH
EXIST SD OUTFALL TO BE REMOVED
EXIST SD OUTFALL TO BE REMOVED
FILL EXIST CREEK OUTSIDE PROP CHANNEL BOUNDARIES
STA. 1+260
MATCH LINE
SEE SHEET C-3
VARIES 1:1 MAX
1+140
1+160
1+180
1+200
1+220
1+240
N
PLAN SCALE
PLAN SCALE 1:200
SEE TYP SEC F, SHEET C-5
SEE TYP SEC G, SHEET C-5
SEE TYP SEC H, SHEET C-5
STA. 1+132.9 TOP OF RIFFLE POOL INV 48.56 m
STA. 1+146.0 TOP OF RIFFLE POOL INV 49.01 m
STA. 1+159.0 TOP OF RIFFLE POOL INV 49.47 m
STA. 1+172.0 TOP OF RIFFLE POOL INV 49.93 m
STA. 1+185.0 TOP OF RIFFLE POOL INV 50.23 m
STA. 1+252.5
1% WATER SURFACE ELEVATION
PROP LEFT TOP OF BANK
S=0.0025
PROP CHANNEL INVERT
STA. 1+130 MATCH LINE SEE SHEET C-1
STA. 1+260 MATCH LINE SEE SHEET C-3
(ELEVATIONS IN METERS)
60
58
56
54
52
50
48
46
44
42
40
1+130
1+140
1+150
1+160
1+170
1+180
1+190
1+200
1+210
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1+230
1+240
1+250
1+260
PROFILE SCALE
HORIZ: 1:200
VERT: 1:100

REV	DESCRIPTION	DATE	APPR.	REFERENCE INFORMATION AND NOTES
	PRELIMINARY 12-20-06			

DATE 11/06/06
DESIGN
DRAWN J. WHITE
CHECKED T. NOAH

ENGINEERING CERTIFICATION
TONY TEGHEN NOAH
No. C47634
PROJECT ENGINEER MM-DD-YY

Santa Clara Valley Water District

PROJECT NAME AND SHEET DESCRIPTION:

ADOBE CREEK UPPER REACH 5 RESTORATION PROJECT

PLAN AND PROFILE
STATION 1+130 TO STATION 1+260

SCALE: AS SHOWN

VERIFY SCALES
0 25
BAR IS 25 MILLIMETERS ON ORIGINAL DRAWING IF NOT ADJUST SCALES ACCORDINGLY

PROJECT NUMBER: 10104011

SHEET CODE: C-2

PAGE NUMBER: 9 OF 12

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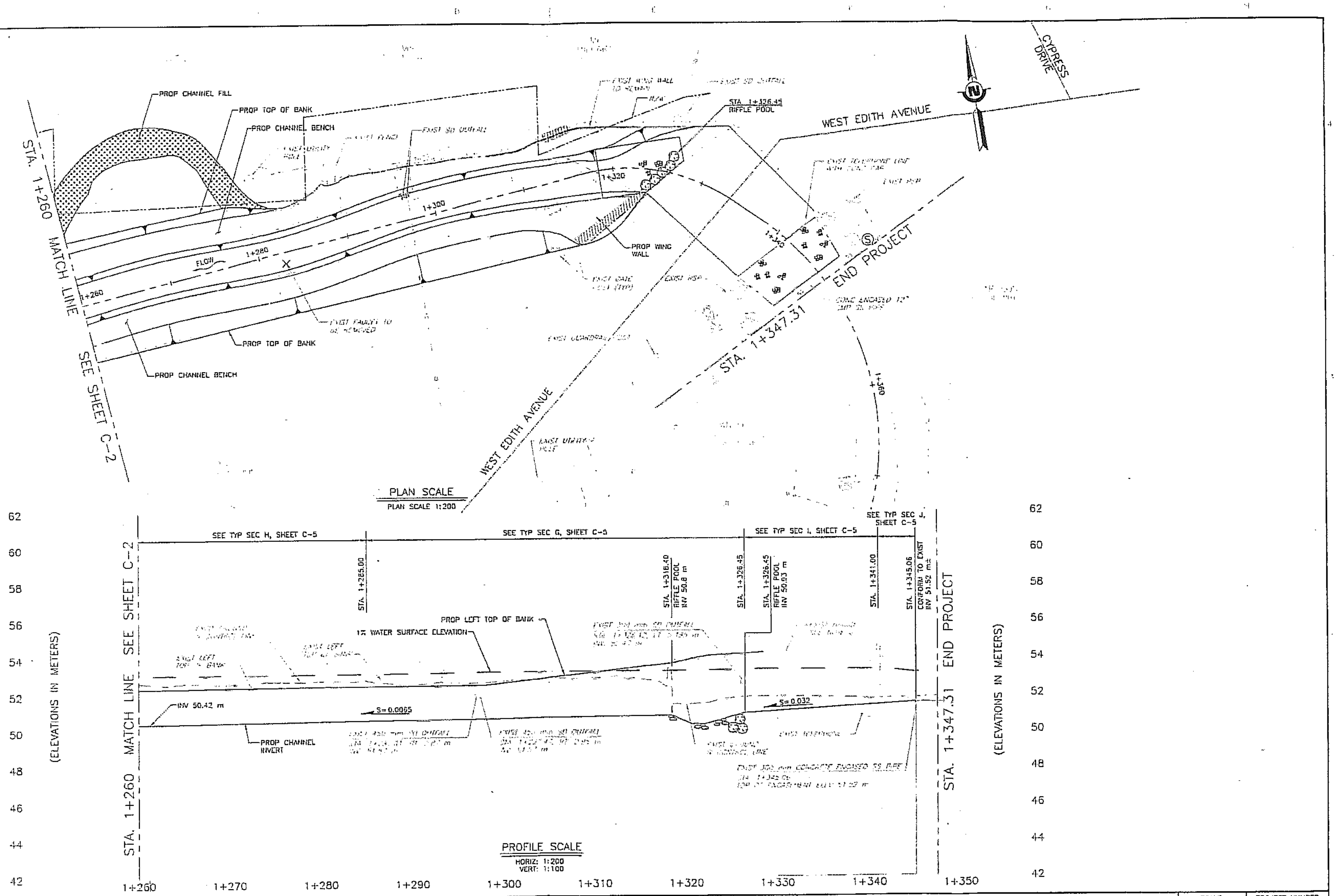

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	PRELIMINARY 12-20-06		

REFERENCE INFORMATION AND NOTES

1. AERIAL PHOTOGRAPHY WAS TAKEN IN JUNE 2002.
2. LOCATION AND ELEVATION OF BRIDGE STRUCTURES ARE APPROXIMATE AND FOR REFERENCE ONLY.

DATE
11/06/06
DESIGN
XX
DRAWN
J. WHITE
CHECKED
T. NOAH

ENGINEERING CERTIFICATION

No. C67634
Exp. 06/30/07

PROJECT ENGINEER MM-DD-YY

Santa Clara Valley Water District

PROJECT NAME AND SHEET DESCRIPTION:

ADOBE CREEK UPPER REACH 5
RESTORATION PROJECT

PLAN AND PROFILE
STA 1+260 TO STA 1+347.31

SCALE
AS SHOWN

VERIFY SCALES
0 25
BAR IS 25 MILLIMETERS ON ORIGINAL DRAWING IF NOT ADJUST SCALES ACCORDINGLY

PROJECT NUMBER
10104011

SHEET CODE:
C-3

PAGE NUMBER:
10 OF 12

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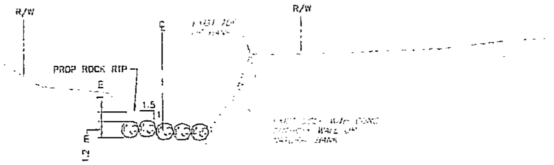

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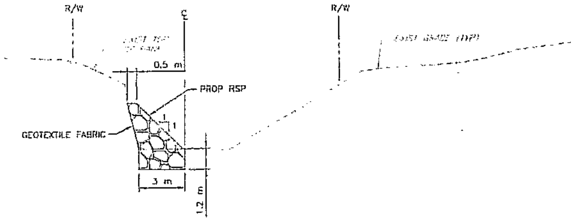

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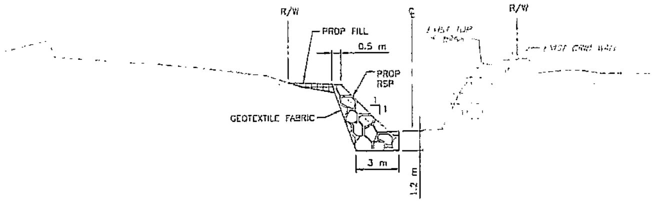

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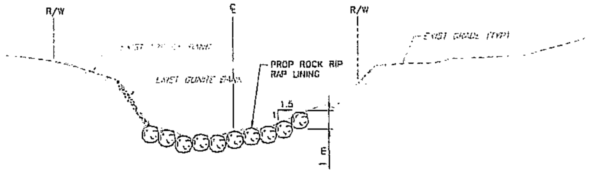

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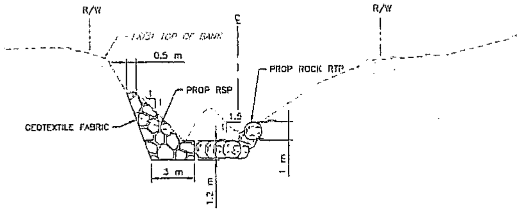

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ALL SECTIONS LOOKING UPSTREAM

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DATE 11/06/06
DESIGN C. CHUNG
DRAWN J. WHITE
CHECKED T. NOAH

ENGINEERING CERTIFICATION
PROJECT ENGINEER MM-DD-YY

Santa Clara Valley Water District

PROJECT NAME AND SHEET DESCRIPTION:
ADOBE CREEK UPPER REACH 5
RESTORATION PROJECT
EROSION CONTROL SITES

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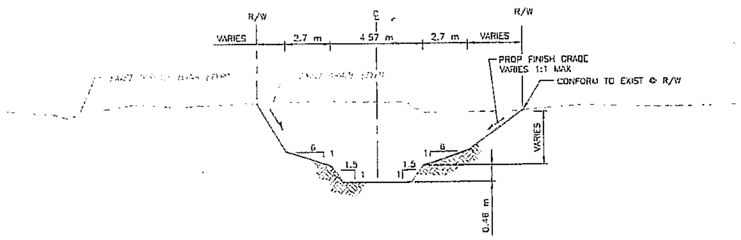
PROJECT NUMBER 10104011
SHEET CODE: C-4
PAGE NUMBER: 11 OF 12



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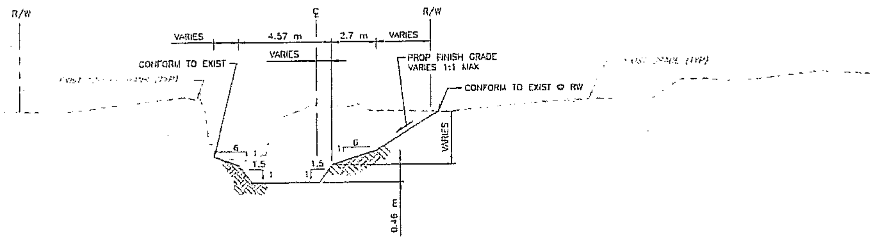
C-3



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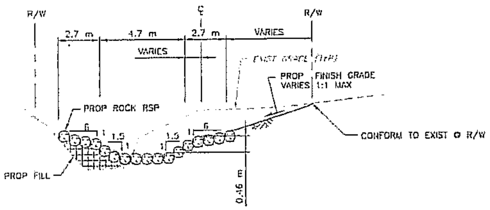
C-3



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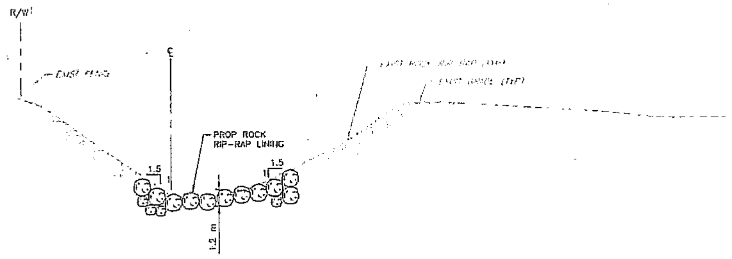
C-2



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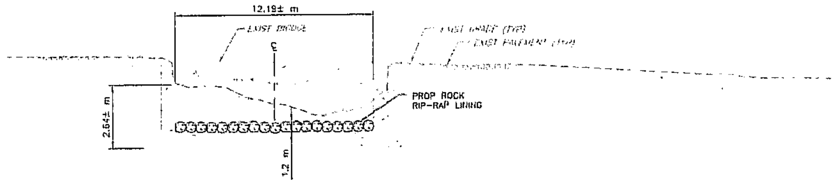

SECTION I / C-3 TYPICAL SECTION
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ALL SECTIONS LOOKING UPSTREAM

REV	DESCRIPTION	DATE	APPR	REFERENCE INFORMATION AND NOTES
	PRELIMINARY 12-20-06			

DATE 11/06/06
DESIGN XX
DRAWN J. WHITE
CHECKED T. NDAH

ENGINEERING CERTIFICATION
TONY TEGHEN NDAH
No. C67636
Exp. 06/30/07
PROJECT ENGINEER MM-DD-YY

Santa Clara Valley Water District

PROJECT NAME AND SHEET DESCRIPTION:
ADOBE CREEK UPPER REACH 5
RESTORATION PROJECT

TYPICAL CHANNEL SECTIONS

SCALE
AS SHOWN
VERIFY SCALES
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BAR IS 25 MILLIMETERS ON ORIGINAL DRAWING IF NOT ADJUST SCALES ACCORDINGLY

PROJECT NUMBER
10104011
SHEET CODE:
C-5
PAGE NUMBER:
12 OF 12

APPENDIX B

Vascular Plant Species Detected

Vascular Plant Species Detected at the Adobe Creek Upper Reach 5 Project, SCVWD
October & November 2005, April & June 2006

CLASS Family *Scientific Name*	Common Name
EQUISETAE	
Equisetaceae - Horsetail Family	
Equisetum arvense	common horsetail
CONIFERAE	
Cupressaceae - Cypress Family	
Calocedrus decurrens **	incense-cedar
Chamaecyparis lawsoniana **	Port Orford cedar
Juniperus sp. *	juniper
Platycladus orientallis *	Oriental arborvitae
Pinaceae - Pine Family	
Pinus radiata **	Monterey pine
Taxodiaceae - Redwood Family	
Sequoia sempervirens **	coast redwood
DICOTYLEDONAE	
Amaranthaceae - Amaranth Family	
Amaranthus albus *	tumbleweed
Anacardiaceae - Sumac Family	
Schinus molle *	California pepper-tree
Toxicodendron diversilobum	poison oak
Apiaceae - Parsley Family	
Conium maculatum *	poison hemlock
Foeniculum vulgare *	sweet fennel
Torilis arvensis *	hedge-parsley
Apocynaceae - Dogbane Family	
Nerium oleander *	common oleander
Vinca major *	periwinkle
Araliaceae - Aralia Family	
Hedera helix *	English ivy
Asteraceae - Sunflower Family	
Artemisia douglasiana	mugwort
Baccharis pilularis	coyote brush
Carduus pycnocephalus *	Italian thistle
Cirsium vulgare *	bull thistle
Conyza bonariensis *	flax-leaf fleabane
Delairia odorata (=Senecio mikanioides) *	Cape ivy
Dittrichia graveolens *	dittrichia
Gnaphalium luteo-album *	cudweed

CLASS Family *Scientific Name*	Common Name
Helenium puberulum	sneezeweed
Hypochaeris radicata *	rough cat's-ear
Lactuca serriola *	prickly lettuce
Picris echioides *	bristly ox-tongue
Senecio vulgaris *	common groundsel
Silybum marianum *	milk-thistle
Sonchus asper *	prickly sow-thistle
Sonchus oleraceus *	common sow-thistle
Xanthium strumarium	eastern cocklebur
Bignoniaceae - Bignonia Family	
Bignonia sp. *	trumpet creeper
Brassicaceae - Mustard Family	
Brassica nigra *	black mustard
Cardamine oligosperma	bitter cress
Hirschfeldia incana *	hoary mustard
Raphanus sativus *	wild radish
Rorippa nasturtium-aquaticum	water cress
Caprifoliaceae - Honeysuckle Family	
Sambucus mexicana	blue elderberry
Symphoricarpos albus var. laevigatus **	snowberry
Caryophyllaceae - Pink Family	
Stellaria media *	common chickweed
Celastraceae - Staff-tree Family	
Euonymus japonica *	evergreen euonymus
Convolvulaceae - Morning-glory Family	
Convolvulus arvensis *	field bindweed
Cornaceae- Dogwood Family	
Cornus sericea ssp. occidentalis	western dogwood
Cucurbitaceae - Gourd Family	
Marah fabaceus	California man-root
Ebenaceae - Persimmon Family	
Diospyros lotus *	date plum
Euphorbiaceae - Spurge Family	
Chamaesyce maculata *	spotted spurge
Euphorbia lathyris *	caper spurge
Euphorbia peplus *	petty spurge
Fabaceae - Pea Family	
Acacia dealbata *	silver wattle
Acacia melanoxylon *	blackwood acacia
Medicago polymorpha *	bur-clover
Melilotus alba *	white sweet-clover
Vicia sativa ssp. sativa *	common vetch

CLASS **Family** ***Scientific Name***	**Common Name**
Fagaceae - Oak Family	
Quercus agrifolia	coast live oak
Quercus lobata	valley oak
Quercus suber *	cork oak
Geraniaceae - Geranium Family	
Erodium moschatum *	white-stemmed filaree
Geranium dissectum *	cranesbill
Geranium molle *	dovesfoot geranium
Geranium robertianum *	robert geranium
Hippocastanaceae - Buckeye Family	
Aesculus californica	California buckeye
Juglandaceae - Walnut Family	
Juglans hindsii **	Northern California black walnut
Juglans regia *	English walnut
Lamiaceae - Mint Family	
Melissa officinalis *	lemon balm
Mentha spicata var. spicata *	spearmint
Stachys pycnantha	short-spiked hedge nettle
Lauraceae - Laurel Family	
Laurus nobilis *	bay
Umbellularia californica	California bay
Lythraceae - Loosesstrife Family	
Lythrum hyssopifolia *	loosestrife
Malvaceae - Mallow Family	
Malva nicaeensis *	bull mallow
Moraceae - Mulberry Family	
Morus alba *	white mulberry
Myrtaceae - Myrtle Family	
Eucalyptus globulus *	Tasmanian blue gum
Eucalyptus polyanthmos *	silver dollar gum
Eucalyptus sideroxylon *	red ironbark
Oleaceae - Olive Family	
Ligustrum lucidum *	glossy privet
Olea europea *	olive
Onagraceae - Evening Primrose Family	
Epilobium ciliatum ssp. ciliatum	northern willow herb
Oxalidaceae - Oxalis Family	
Oxalis corniculata *	creeping wood sorrel
Oxalis latifolia *	Mexican oxalis
Oxalis pes-caprae *	Bermuda buttercup
Philadelphaceae - Mock Orange Family	
Philadelphus sp. *	mock orange

CLASS Family *Scientific Name*	Common Name
Plantaginaceae - Plantain Family	
Plantago lanceolata *	English plantain
Platanaceae - Sycamore Family	
Platanus acerifolia *	London plane tree
Polygonaceae - Buckwheat Family	
Polygonum arenastrum *	common knotweed
Rumex conglomeratus *	whorled dock
Rumex crispus *	curly dock
Portulaceae - Purslane Family	
Claytonia perfoliata ssp. perfoliata	miner's lettuce
Primulaceae - Primrose Family	
Anagallis arvensis *	scarlet pimpernel
Rosaceae - Rose Family	
Cotoneaster pannosa *	cotoneaster
Heteromeles arbutifolia **	toyon
Horkelia californica ssp. frondosa	California horkelia
Photinia serrulata *	Chinese photinia
Prunus cerasifera *	cherry plum
Prunus ilicifolia **	holly-leaved cherry
Pyracantha angustifolia *	common firethorn
Rosa sp. *	garden rose
Rosa californica	California rose
Rubus discolor *	Himalayan blackberry
Rubus ursinus	California blackberry
Rubiaceae - Madder Family	
Galium aparine	bedstraw
Salicaceae - Willow Family	
Populus nigra *	Lombardy poplar
Salix lasiolepis	arroyo willow
Saxifragaceae - Saxifrage Family	
Heuchera micrantha **	alumroot
Scrophulariaceae - Figwort Family	
Kickxia elatine *	sharp-leaved fluellin
Scrophularia californica ssp. californica	California figwort
Veronica persica *	Persian speedwell
Solanaceae - Nightshade Family	
Solanum nigrum *	black nightshade
Urticaceae - Nettle Family	
Urtica dioica ssp. holosericea	hoary nettle
Urtica urens *	dwarf nettle
Vitaceae - Grape Family	
Vitis vinifera *	wine grape

CLASS **Family** ***Scientific Name***	**Common Name**
Zygophyllaceae - Caltrop Family	
Tribulus terrestris *	puncture vine
MONOCOTYLEDONAE	
Arecaceae - Palm Family	
Phoenix canariensis *	Canary Island palm
Cyperaceae - Sedge Family	
Cyperus eragrostis	umbrella sedge
Scirpus microcarpus	small-fruited bulrush
Iridaceae - Iris Family	
Crocosmia x crocosmiiflora *	crocosmia
Juncaceae - Rush Family	
Juncus patens	spreading rush
Juncus xiphioides	iris-leaved rush
Lemnaceae - Duckweed Family	
Lemna sp.	duckweed
Poaceae - Grass Family	
Agrostis viridis *	water bent grass
Avena fatua *	wild oats
Bambusa sp. *	bamboo
Bromus diandrus *	ripgut brome
Bromus sterilis *	sterile brome
Crypsis schoenoides *	swamp grass
Echinochloa crus-galli *	barnyard grass
Hordeum murinum ssp. leporinum *	hare barley
Lolium multiflorum *	Italian ryegrass
Piptatherum miliaceum *	smilo grass
Poa annua *	annual bluegrass
Polypogon monspeliensis *	rabbitfoot grass

* = non-native species; ** = species native to California but not naturally occurring on project site;
1 = special-status taxon; ? = species identification tentative, based on condition of plant material.

APPENDIX C

Wildlife Species Observed on the Project Site

Wildlife Species Observed on the Project Site

COMMON NAME	SCIENTIFIC NAME	STATUS*
House wren	*Troglodytes aedon*	None
Anna's hummingbird	*Calypte anna*	None
Western scrub-jay	*Aphelocoma californica*	None
Mourning dove	*Zenaida macroura*	None
Oak titmouse	*Baeolophus inornatus*	FSC
Song sparrow	*Melospiza melodia*	None
Chestnut-backed chickadee	*Poecile rufescens*	None
California towhee	*Pipilo crissalis*	None
Downy woodpecker	*Picoides pubescens*	None
Steller's jay	*Cyanocitta stelleri*	None
Yellow-rumped warbler	*Dendroica coronata*	None
Sacramento sucker	*Catostomus occidentalis*	None
Eastern fox squirrel	*Sciurus niger*	None
California meadow vole	*Microtus californicus*	None

*Status Codes

FE = Listed as Endangered by the Federal Government
FT = Listed as Threatened by the Federal Government
FPT = Proposed Listed as Threatened by the Federal Government
FC = Federal Candidate Species
SE = Listed as Endangered by the State of California
ST = Listed as Threatened by the State of California
CSC = California Species of Special Concern
CFP = Fully protected under the California Fish and Game Code

APPENDIX D

Fisheries Technical Memorandum

Fisheries Technical Memorandum

Technical Memorandum

Prepared for: **EDAW, Inc. and Sycamore, Inc.**

Prepared by **Hagar Environmental Science**

Adobe Creek Upper Reach 5 Project-

Aquatic Habitat Site Assessment

Observations were made in Adobe Creek on November 8, 2005 between Edith Avenue Bridge and the Foothill Expressway box culvert. The purpose of the site visit was to describe existing aquatic habitat conditions, assess potential for fish species presence, and to provide recommendations concerning how the project could avoid biological impacts. The project is described in "Adobe Creek Upper Reach 5 Project, West Edith Avenue Bridge to 1,100 feet downstream (Project Number : 10104011) Prepared by Saeid Hosseini and Tony Ndah, Revised: October 17, 2005).

Habitat Conditions

The streambed was dry upstream of Edith Avenue and from Edith Avenue downstream to the Robleda storm drain. Much of the channel in this section was lined with concrete and had a variety of bank protection applications including gunnite, concrete block, or wood plank walls. In locations where the bank protection or bed lining were absent or failing the streambed structure would provide some cover for fish, if flow were present. In some locations, where bank protection was not present, some habitat structure was provided by roots of large mature eucalyptus (many of the mature trees had been cut but were sprouting small trees from the stumps) and redwood trees. Much of the north bank in this section had redwood trees that shaded the creek. A drop structure in this section consisting of an approximately 6 foot drop of 1:1 sloped concrete with a 10 foot long apron at its base is a barrier to fish migration. Substrate in the reach upstream of Robleda storm drain, where it was not concrete, consisted primarily of gravel and sand.

A short distance downstream of the Robleda storm drain the streambed was wetted and surface flow was continuous to Foothill Expressway. Pools in this section were formed by boulder weirs (artificial), a drop structure, boulders, willows, and tree roots including the base of a large eucalyptus that had fallen. In shallow, open areas there was a dense growth of water cress (*Rorippa nasturtium-aquaticum*). The channel downstream of Robleda storm drain appeared to be wider and more open with less shading from riparian canopy. A low drop structure (about 3.5 feet high) in this reach had a well-developed pool below it and a central notch. This structure is likely a barrier to native fish species present in the project area. Substrate in the reach downstream of Robleda storm drain consisted primarily of gravel and sand with some smaller cobbles and boulders (the boulders are likely not native to the stream but are strays from bank protection and weir placements).

Fish Community

Numerous California roach and young Sacramento sucker were observed in pools downstream of the Robleda storm drain. The largest sucker observed was about 4 inches in length. These species would be expected in this stream, as would prickly sculpin and stickleback. The habitat structure appears capable of supporting trout and rainbow trout have been reported historically from Adobe Creek although they are currently considered extirpated from the stream (Leidy et al. 2005). It is likely that steelhead were historically present, as they were in nearby streams. The loss of streamflow in the reach upstream of Robleda storm drain would preclude trout although there was good flow upstream at O'Keefe Lane and the reach could be used seasonally if there are trout populations upstream. Summer temperature conditions are not known but may be warm for trout. Steelhead are thought to be precluded from this part of Adobe Creek by downstream channel alterations (Habitat Restoration Group 1989). No evaluation of downstream barriers was conducted as part of our assessment.

Avoidance of Impacts

Temporary Construction Related Impacts

Short term, temporary construction impacts to the aquatic environment will be minimal if the streambed is dry during the construction period. Any dewatering needed will involve temporary loss of aquatic habitat in the dewatered areas. Aquatic organisms can be removed from construction areas prior to dewatering and relocated to unaffected parts of the stream, and this is typically required for projects involving listed or sensitive species. There are not listed or sensitive fish species expected in the project area and fish species present are widely distributed in the region. Most aquatic organisms are expected to re-colonize affected areas within a relatively short time following construction activities as long as post-project habitat conditions are suitable. Potential impacts from this activity include inability to relocate certain types of organisms, incomplete removal of other organisms, losses due to handling, overcrowding in relocation areas, and spread of disease. Dewatering of work areas will avoid impacts related to sediment mobilization and deposition.

Permanent Habitat Alteration

Creek channel improvements upstream of the Robleda storm drain include placement of rock riprap along the channel bottom and slopes upstream of West Edith Avenue Bridge. Natural substrate in this area appears to consist primarily of sand and gravel. Rock riprap is inappropriate for spawning of most native fishes including, Sacramento suckers, and other stream fish potentially present. Some species such as sculpins and juveniles of other native species may use riprap for cover.

The project would remove a wing wall downstream of the West Edith Avenue Bridge and re-grade the stream channel to a 32-foot wide channel consisting of a 16 foot wide by 1.5-foot deep bank full channel bordered by vegetated mid-bank bench. Streambed fill material placed along the channel bottom may be inappropriate for spawning or feeding of native fish species or production of aquatic invertebrates. Rock riprap placed along the banks on the outside of channel bends will prevent development of root structures and growth of large shade trees such as redwoods that currently line the stream on the east bank. Although rock riprap provides cover for some native fish species it is not usually as extensive or have as good quality as undercut tree roots. Loss of mature trees during construction will result in a loss of habitat quality by reducing shading, reducing cover, and reducing bank stability. Willow cuttings installed in the riprap may partially offset some of this loss in habitat quality, once they become fully established. Replacement of mature trees with large-maturing native riparian species such as redwood, alder, maple, buckeye, and oak would reduce the severity of this impact. Impacts to aquatic habitat can be avoided by retaining, where possible, mature trees with root systems contributing to aquatic habitat and by minimizing rock slope protection and streambed fill.

The stream channel upstream of Robleda storm drain is relatively confined in its present state. The project would create a 32-foot wide channel with a 16-foot wide, 1.5-foot deep bank full channel, which is wider than the existing channel. Increased channel width may result in shallower depth of flow, reduced suitability for fish passage, and altered sediment deposition and scour features, and separation of habitat features from the low flow channel (undercut banks, undercut root masses, overhanging terrestrial vegetation etc.).

At least one of the project alternatives (Alternative 5) appears to result in straightening of the low-flow stream channel. The sinuosity of the natural low-flow channel provides greater habitat complexity and better pool formation than a straight channel. Straightened channels usually require hardening of the bed and banks in order to maintain the unnatural geometry. Alternatives that retain or mimic the natural channel sinuosity will result in less impact to aquatic habitat and fish populations.

Removal of concrete, shotcrete, sacked concrete, concrete rubble, and wood retaining walls potentially benefits aquatic habitat by restoring natural geomorphic process in the stream channel. Removal of the existing grade control structures and installation of low rock weirs will remove a barrier to fish migration. If properly constructed, the rock weirs will result in formation of deep pools and graded substrate with gravel accumulations at the tail of the pools. Creation of such pools potentially benefits native fish populations, particularly if integrated with appropriate riparian plantings.

Channel bottom and bank erosion repair downstream of Robleda storm drain consisting of placement of rock riprap along the channel bottom and banks would result in replacement of native sand, gravel, and cobble substrate with rock riprap. As indicated previously, rock riprap may provide suitable cover for some species of native fish but diminishes the quality of habitat for spawning and possibly for other life history stages (feeding). Rock riprap bank installations are generally incompatible with development of quality riparian habitat consisting of large mature shade trees such as alder, redwood, and maple that have well developed root systems that interact with stream hydraulics to form high quality instream cover. Removal of mature riparian trees and riprap bank installations may lead to less riparian shading, warmer water temperature, and lower quality bank cover and habitat structure development. These impacts can be avoided by retaining mature trees and minimizing use of rock slope protection and streambed fill.

	Preferred Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6
Features with Potentially Detrimental Effects							
Stream bed fill	Y	N	Y	Y	Y	Y	Y
Rock slope protection	Y	N	Y	Y	Y	Y	Y
Removal of mature trees	Y	N	Y	Y	Y	Y	Y
Increased channel width	Y	N	Y	Y	Y	Y	Y
Straightened channel	Y	N	N	Y	Y	Y	Y
Straightened low-flow channel	N	N	N	N	N	Y	N
Features with Potentially Beneficial Effects							
Rock weir grade control	Y	N	Y	Y	Y	Y	Y
Removal of existing upper drop structure	Y	N	Y	Y	Y	Y	Y
Removal of existing lower drop structure	N	N	Y	Y	Y	Y	Y
Removal of existing slope protection	Y/N	N	Y/N	Y/N	Y/N	Y/N	Y/N

APPENDIX G

Tree Survey and Preservation Plan

Prepared for:
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Prepared by:
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2099 Mt. Diablo Blvd., Suite 205
Walnut Creek, CA 94596
(925) 279-0580

Draft December 8, 2005

Revised August 22, 2006

TREE SURVEY AND PRESERVATION PLAN, ADOBE CREEK UPPER REACH 5, SANTA CLARA VALLEY WATER DISTRICT, CITY OF LOS ALTOS AND TOWN OF LOS ALTOS HILLS, SANTA CLARA COUNTY, CALIFORNIA

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1.0 INTRODUCTION AND SETTING

Sycamore Associates LLC (Sycamore) was contracted by EDAW to conduct a tree survey for the approximate 1,100 linear foot Adobe Creek Upper Reach 5 located on the boundary between the City of Los Altos and the Town of Los Altos Hills, from immediately before the West Edith Avenue Bridge to just upstream of the Foothill Expressway (Figure 1 and 2). The Adobe Creek Reach 5 (hereafter referred to as the study area) is located in Section 30, Township 6 South, Range 2 West, as depicted on the Mountain View U.S. Geological Survey 7.5-minute topographic quadrangle. Elevations within the proposed project range from 145 to 175 feet above mean sea level.

The proposed Adobe Creek Upper Reach 5 Restoration Project is intended to improve the creek ecosystem by replacing the existing concrete channel protection with channel protection utilizing minimal hardscape, stabilizing the banks, repairing the eroded channel, removing sediment, and improving channel conveyance capacity (Hosseini and Ndah 2005). The Adobe Creek Upper Reach 5 Restoration Project consists of two "components": Flood Protection Project Elements (consisting of alternatives, 1-7) and Erosion Control Elements (consisting of alternatives, A-D). Alternative 7 (including erosion control Alternative B) is the Preferred Alternative. The present report analyzes only the impacts of the Preferred Alternative on tree resources.

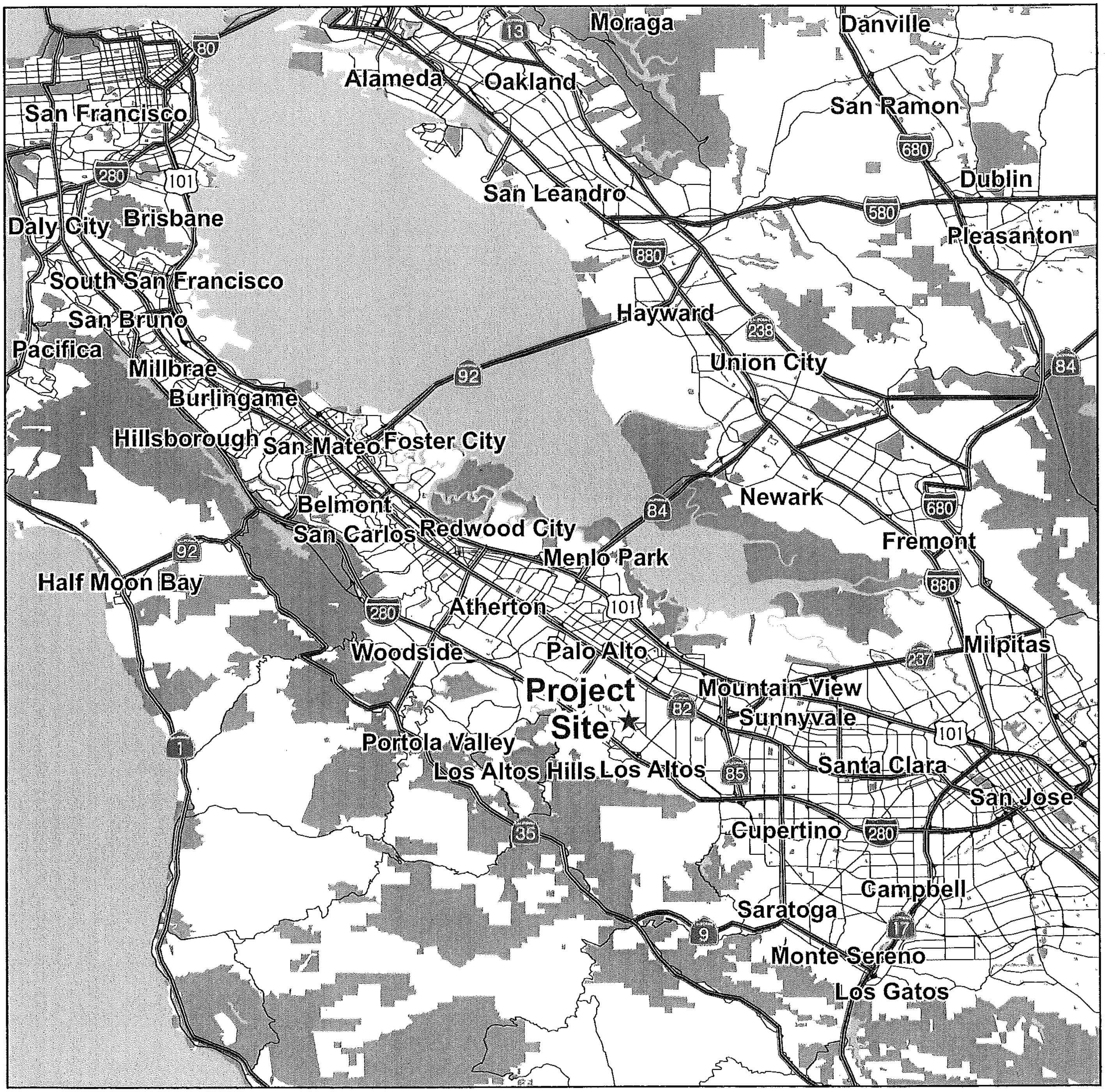
The project encompasses a stretch of Adobe Creek that runs from the West Edith Avenue bridge to approximately 1,100 linear feet downstream (subdivided into the "erosion repair reach" and proposed "channel improvement reach," and is intended to address the severe erosion problems and narrow channel cross sections found within this stretch of the creek, which have resulted in limited capacity to weather FEMA floods (of well below one percent), as well as reduce the severity of flooding on site.

The project consists of two main activities: 1) creek channel improvements and 2) channel bottom and bank erosion repair. The creek channel improvements would occur between the West Edith Avenue Bridge and the Robleda Storm Drain Outlet. The creek channel improvements include widening the existing channel, mainly to the south of the channel, which would involve grading within the Proposed Top of Bank line (Figure 3). The channel bottom and bank erosion repair measures would begin at the Robleda Storm Drain Outlet and extend downstream for about 400 feet. The proposed erosion control measures include placement of rock riprap and other stabilization of existing creek banks, such as at Robinwood Pool. The creek channel location would remain the same width downstream of the Robleda Storm Drain Outlet and no grading outside the existing channel will take place.

The existing creek channel is characterized by hardpan surfaces such as gunite, concrete walls, sack-concrete, riprap, and wooden wall structures. Several outfalls are scattered throughout the reach, and there are several drop structures along the reach, including one that is approximately six feet tall, followed by two one-foot drops. An additional approximately four-foot drop is located further downstream.

Upper Reach 5 of Adobe Creek is currently surrounded by residential neighborhoods. Residents of the City of Los Altos and Town of Los Altos Hills created the Adobe Creek Watershed Group to address issues of flooding, erosion and habitat loss. The group works closely with the Santa Clara Valley Water District, The City of Los Altos, and the Town of Los Altos Hills as the main stakeholders. The Adobe Creek Watershed Group designated certain trees in the study area as high priority for preservation, with Trees of Particular Value as the highest priority and Trees to Save if Possible as the second highest priority (Figure 3). In addition, the Adobe Creek Watershed Group and the Santa Clara Valley Water District determined the Collaborative Blue Line, which is the limit of grading that each property owner agreed to (Figure 3).

This report presents the results of our tree survey, recommendations for tree preservation and removal, and tree preservation and construction guidelines.



Legend

★ Location of the Project Site

〰 Freeways & Highways

〜 Major Surface Roads

▨ Water

▨ Open Space

Figure 1

Regional Location of the Project Site

Adobe Creek Upper Reach 5 Project

Santa Clara County Water District

Los Altos & Los Altos Hills, Santa Clara County, California

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1:380,160 11/17/05
1 inch equals 6 miles
0 3 6 12
Miles

N

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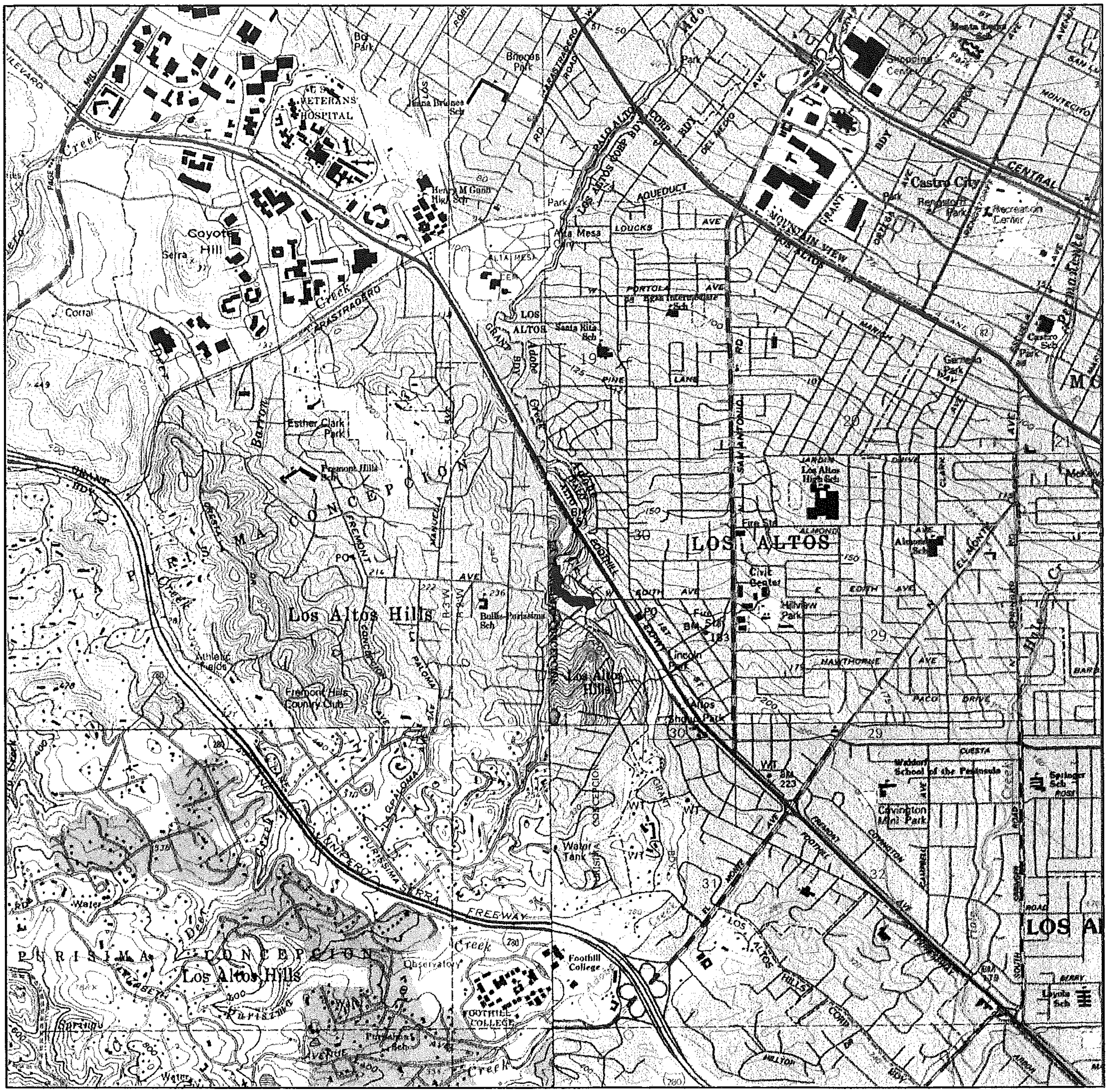

Legend

▭ Project Site

Figure 2

Vicinity of the Project Site

Adobe Creek Upper Reach 5 Project

Santa Clara County Water District

Los Altos & Los Altos Hills, Santa Clara County, California

1:31,680 11/11/05

1 inch equals 0.5 miles

N

0 0.5 1

Miles

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2.0 METHODS

Certified arborist Erin McDermott and biologist Dana Terry conducted the tree survey along the approximately 1,100-foot stretch of Adobe Creek Upper Reach 5 on October 20, 21, and 24, 2005. The survey included trees with a diameter of greater than 6 inches at 54 inches above grade (DBH). The survey included the area within the easement, as well as trees of appropriate size within the vicinity of the Proposed Top of Bank, as shown in the Preferred Alternative Plan provided by the Santa Clara Valley Water District. The survey also included all trees surveyed as part of the January 2002 Tree Preservation Plan by HortScience, regardless of their location.

Trees were identified to species, tagged (if not previously tagged), and the location recorded on the map of trees provided by the Santa Clara Valley Water District. The trunk diameter at breast height was measured and recorded, for all trees not previously surveyed. All tagged trees were visually assessed from the ground and assigned a condition rating on a scale of 0 to 5 as follows:

0 - Dead.
1 - Declining; majority of new growth epicormic[1], dieback in scaffold branches and/or trunk, extensive structural defects not correctable with proper care.
2 - Poor; significant epicormic growth, dieback in large branches, significant structural defects not correctable with proper care.
3 - Fair; average vigor, some dieback of twigs and/or small branches, structural defects that may be corrected or alleviated with proper care.
4 - Good; good vigor and leaf color, some twig dieback may be present, minor structural defects correctable with proper care.
5 - Excellent; healthy, vigorous tree with good structure and form typical of the species; reasonably free of signs and symptoms of disease.

Any areas of structural weakness such as decay, cracks, poor crown formation or branch structure, and signs of disease were noted. Each tree's suitability for preservation was then rated as "good", "moderate", or "poor" based upon the tree's species, health, age, structural condition, and its potential to remain an asset to the site.

A total of 145 trees had been surveyed as part of the January 2002 Tree Preservation Plan by HortScience. HortScience tagged these trees with tag numbers 201-345. Sycamore verified the species and mapped the location of these trees. The condition, suitability for preservation, and comments for each tree were re-evaluated and updated for each tree. The diameter at breast height was not re-measured as part of this survey.

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[1] Epicormic growth is a shoot arising from latent or adventitious buds on mature branches, the trunk, or near large pruning wounds. This type of growth is generally not firmly attached to the stem from which it arises and in older wood often results from severe defoliation, damage, or disease.

The trees have a four digit survey number assigned by the Santa Clara Valley Water District. Several of the trees shown on the map provided by the Santa Clara Valley Water District were shrubs or trees with a diameter of less than 6 inches diameter at breast height which were not included in this survey. Throughout this report, a certified arborist is defined as one who is certified by the International Society of Arboriculture.

3.0 RESULTS

A total of 269 trees were tagged (including 141 of the 145 trees tagged as part of the January 2002 Tree Preservation Plan by HortScience) and identified, representing 28 species (Table 1, Appendix A, Figure 3). Four trees (Tree Nos. 231, 236, 281, and 282) that were included in the 2002 HortScience Tree Preservation Plan had been removed and stumps were present. These four stumps were not included in this tree report with the exception of noting their condition in Appendix A.

Table 1. Summary of Tagged Trees

Species	Common Name	Number of Trees
Acacia dealbata	Silver wattle	1
Acacia melanoxylon	Blackwood acacia	19
Aesculus californica	California buckeye	14
Calocedrus decurrens	California incense cedar	10
Chamaecyparis lawsoniana	Port Orford cedar	2
Diospyros lotus	Date plum	1
Eucalyptus globulus	Blue gum	28
Eucalyptus globulus 'Compacta'	Dwarf blue gum	1
Eucalyptus polyanthemos	Silver dollar gum	1
Eucalyptus sideroxylon	Red ironbark	5
Euonymus japonica	Evergreen euonymus	1
Juglans californica var. hindsii	Northern California black walnut	7
Juglans regia	English walnut	1
Laurus nobilis	Grecian laurel	1
Ligustrum lucidum	Glossy privet	7
Olea europaea	Olive	3
Phoenix canariensis	Canary Island date palm	2
Photinia sp.	Photinia	1
Pinus radiata	Monterey pine	11
Platycladus orientalis	Oriental arborvitae	13
Populus nigra 'Italica'	Lombardy poplar	3
Prunus cerasifera	Plum	5
Quercus agrifolia	Coast Live Oak	19
Quercus lobata	Valley Oak	3
Quercus suber	Cork oak	1
Sambucus mexicana	Blue elderberry	10
Sequoia sempervirens	Coast redwood	94
Umbellularia californica	California bay	5
	TOTAL	**269**

The majority of the trees on site are coast redwoods (Table 1). The majority of the coast redwoods are along the north bank of the creek and have been designated a high priority for preservation by the Adobe Creek Watershed Group (Figure 3). The south side of the creek, within the proposed creek channel improvements, is composed largely of blue gum and blackwood acacia, with scattered oaks, and ornamental trees, such as glossy privet. Many of the blue gum and blackwood acacia throughout the study area are resprouts from trees that had been previously cut, and root sprouts from nearby trees. Overall, they displayed weedy and invasive characteristics. Downstream of the Robleda Storm Drain Outlet, trees on the south side of the creek are mostly native species, including coast live oak, California bay, and California buckeyes, with a few ornamental species mixed in.

The Los Altos Hills Municipal Code (Sec. 12-2.112, Appendix B) defines a Heritage Oak as any tree of the genus *Quercus*, including, but not limited to, Valley Oak (*Quercus lobata*), California Live Oak (*Quercus agrifolia*), Black Oak (*Quercus kelloggii*) and Blue Oak (*Quercus douglasii*) that has a trunk or multiple trunk thirty-six inches in circumference (approximately twelve inches in diameter) at point 4 feet above the root crown (§ 2 (part), Ord. 332, eff. June 1, 1990). In addition, the Los Altos Hills Municipal Code (Sec. 12-2.113, Appendix B) defines a Heritage Tree as any tree that, due to age, size, location, visibility, historic nature, or other unique attribute, has been deemed by the Town to be a Heritage Tree and accordingly deserves special consideration for preservation and protection. To the best of our knowledge, there are no Heritage Trees as defined by the Los Altos Hills Municipal Code, within the study area. The Los Altos Municipal Code does not differentiate any trees as protected, other than all street trees, regardless of size or species.

The Santa Clara County Tree Ordinance (Sec. C16-2, Appendix C) defines a Heritage Tree as any tree which, because of its history, girth, height, species, or other unique quality, has been recommended for inclusion on the heritage resource inventory by the Historical Heritage Commission and found by the Board of Supervisors to have special significance to the community, and which has therefore been included in the heritage resource inventory adopted by the resolution of the Board of Supervisors. To the best of our knowledge, there are no trees listed in the heritage resource inventory, within the study area. The Santa Clara County Tree Ordinance has a broad definition of a protected tree (Section C16-3, Appendix C), none of which pertains to trees within the study area, to the best of our knowledge.

There are eleven oak trees that are greater than 36 inches in circumference within the study area (Table 2). Trees numbered 214, 227, 273, 608, and 613 are on the north side of Adobe Creek and within the City of Los Altos and may not be considered Heritage Oaks. Trees numbered 294, 300, 310, 558, 575, and 628 are on the south side of Adobe Creek in the City of Los Altos Hills and are considered Heritage Oaks.

Table 2. Heritage Oak Trees

Tree No.	Survey No.	Property Owner	Species	DBH (inches)	Circumference (inches)
214	6084	Levis	Valley oak	18	56.5
227	6162	Wittner	Cork oak	12	37.7
273	6287	Remmel	Coast live oak	26	81.7
294	0	Moos	Coast live oak	17	53.4
300	6360	Moos	Coast live oak	15	47.1
310	6354	Moos	Valley oak	22	69.1
558	6285	Moos	Coast live oak	11.5	36.1
575	6456	Astiz	Coast live oak	23.1	72.6
608	-	Pool	Coast live oak	19.9	62.5
613	6527	Van Horne	Coast live oak	26.6	83.6
628	0	Los Altos Hills	Valley oak	13	40.8

4.0 SUITABILITY FOR PRESERVATION

Trees that are preserved on construction sites must be able to survive construction impacts, adapt to a new environment, and perform well in the landscape. Prior to evaluating any impacts from proposed construction, it is necessary to consider the tree resource itself and its ability to function well over an extended period of time. Each tree was rated for suitability for preservation based upon the species, approximate age, health, structural integrity, and ability to safely coexist within a development environment. Suitability was rated as "good", "moderate", or "poor" (Appendix A).

Trees rated "good" have good health and structural stability, and the potential for longevity at the site. Trees rated "moderate" have fair health and/or structural defects that may be abated with management measures. Trees in the "moderate" category may require more management and may have shorter life spans than those rated "good". Trees rated "poor" have poor health or significant structural defects that cannot be abated with treatment. Trees in this category can be expected to decline regardless of management practices. Dead trees were given a "poor" rating.

A summary of suitability ratings for each tree species is given in Table 3. The tagged trees are in variable condition ranging from severe decline to vigorous healthy trees. The coast redwoods on site range from poor to good, with the majority in the good category. Many of them have signs of declining health such as dead tops, or thin canopies but were given a moderate rating because careful attention to water and care can improve the health of redwoods. The majority of the blue gum trees in the study area have a poor suitability for preservation because they have poor structure. For details on each tree and its rating, see Appendix A.

Table 3. Summary of Suitability Ratings

Species	Common Name	Suitability		
		Good	**Moderate**	**Poor**
Acacia dealbata	Silver wattle	0	1	0
Acacia melanoxylon	Blackwood acacia	5	7	7
Aesculus californica	California buckeye	6	7	1
Calocedrus decurrens	California incense cedar	4	5	1
Chamaecyparis lawsoniana	Port Orford cedar	0	1	1
Diospyros lotus	Date plum	0	0	1
Eucalyptus globulus	Blue gum	5	9	14
Eucalyptus globulus 'Compacta'	Dwarf blue gum	0	1	0
Eucalyptus polyanthemos	Silver dollar gum	0	0	1
Eucalyptus sideroxylon	Red ironbark	0	1	4
Euonymus japonica	Evergreen euonymus	0	1	0
Juglans californica var. hindsii	Northern California black walnut	0	4	3
Juglans regia	English walnut	0	0	1
Laurus nobilis	Grecian laurel	0	1	0
Ligustrum lucidum	Glossy privet	0	4	3
Olea europaea	Olive	0	3	0
Phoenix canariensis	Canary Island date palm	2	0	0
Photinia sp.	Photinia	0	1	0
Pinus radiata	Monterey pine	1	7	3
Platycladus orientalis	Oriental arborvitae	6	5	2
Populus nigra 'Italica'	Lombardy poplar	0	2	1
Prunus cerasifera	Plum	1	2	2
Quercus agrifolia	Coast live oak	5	10	4
Quercus lobata	Valley oak	3	0	0
Quercus suber	Cork oak	0	1	0
Sambucus mexicana	Blue elderberry	0	1	9
Sequoia sempervirens	Coast redwood	42	34	18
Umbellularia californica	California bay	2	3	0
	TOTALS	**82**	**111**	**76**
			269	

5.0 RECOMMENDATIONS

The goal of tree preservation is not merely tree survival during construction but maintenance of tree health and beauty for many years. Trees retained on site that do not tolerate construction impacts and/or continue to decline become a liability rather than an asset. The response of individual trees will depend on the amount of excavation and grading and the suitability of the tree for preservation.

The proposed action was determined by carefully evaluating tree condition and quality, and proposed plans. The Tree Summary Data and Suitability for Preservation Ratings (Appendix A) were used to evaluate tree condition and quality. Potential impacts from construction were evaluated using the Preferred Alternative plan prepared by the Santa Clara Valley Water District. Detailed grading plans were not reviewed as part of this determination. Significant changes to plans would require a re-evaluation of potential construction impacts.

In addition, the Santa Clara Valley Water District maintains a list of plant species that are not permitted in a creekside habitat, because of their aggressive, invasive habits and detrimental habitat value. Fourteen of the 29 tree species in the study area are included on this list. These fourteen tree species include silver wattle, blackwood acacia, blue gum, dwarf blue gum, silver dollar gum, red ironbark, Northern California black walnut, English walnut, glossy privet, olive, Monterey pine, Lombardy poplar, plum, and hollyleaf cherry (Table 4). These tree species are listed as having "Detrimental habitat value" in the comments section in Table 6 and Appendix D. Trees that are on this list were recommended for removal with the exception of ten Monterey Pines located adjacent to West Edith Avenue, outside of the immediate project area.

Table 4. Tree Species within the Study Area that are not Permitted in Creekside Habitats by the Santa Clara Valley Water District

Species	**Common Name**
Acacia dealbata	Silver wattle
Acacia melanoxylon	Blackwood acacia
Eucalyptus globulus	Blue gum
Eucalyptus globulus 'Compacta'	Dwarf blue gum
Eucalyptus polyanthemos	Silver dollar gum
Eucalyptus sideroxylon	Red ironbark
Juglans californica var. hindsii	Northern California black walnut
Juglans regia	English walnut
Ligustrum lucidum	Glossy privet
Olea europaea	Olive

Species	Common Name
Pinus radiata	Monterey pine
Populus nigra 'Italica'	Lombardy poplar
Prunus cerasifera	Plum
Prunus ilicifolia	Hollyleaf cherry

Table 5 summarizes the proposed action for each species of tree. The proposed action and comments for each individual tree is shown in Tables 6, 7, and 8. Appendix D lists the proposed action for each individual tree.

Table 5. Summary of Proposed Actions for each Species of Tree

Species	Common Name	Proposed Action		
		Remove	Tentatively Preserve	Preserve
Acacia dealbata	Silver wattle	1	0	0
Acacia melanoxylon	Blackwood acacia	19	0	0
Aesculus californica	California buckeye	2	1	11
Calocedrus decurrens	California incense cedar	2	4	4
Chamaecyparis lawsoniana	Port Orford cedar	1	0	1
Diospyros lotus	Date plum	0	0	1
Eucalyptus globulus	Blue gum	28	0	0
Eucalyptus globulus 'Compacta'	Dwarf blue gum	1	0	0
Eucalyptus polyanthemos	Silver dollar gum	1	0	0
Eucalyptus sideroxylon	Red ironbark	5	0	0
Euonymus japonica	Evergreen euonymus	1	0	0
Juglans californica var. hindsii	Northern California black walnut	7	0	0
Juglans regia	English walnut	1	0	0
Laurus nobilis	Grecian laurel	0	0	1
Ligustrum lucidum	Glossy privet	7	0	0
Olea europaea	Olive	3	0	0
Phoenix canariensis	Canary Island date palm	2	0	0
Photinia sp.	Photinia	0	0	1
Pinus radiata	Monterey pine	1	0	10
Platycladus orientalis	Oriental arborvitae	4	8	1
Populus nigra 'Italica'	Lombardy poplar	3	0	0
Prunus cerasifera	Plum	5	0	0

Species	Common Name	Proposed Action		
		Remove	Tentatively Preserve	Preserve
Quercus agrifolia	Coast live oak	10	1	8
Quercus lobata	Valley oak	0	1	2
Quercus suber	Cork oak	0	0	1
Sambucus mexicana	Blue elderberry	9	0	1
Sequoia sempervirens	Coast redwood	20	8	66
Umbellularia californica	California bay	2	0	3
TOTALS		**135**	**23**	**111**
			269	

Tree Removal

There are 135 trees recommended for removal (Table 5, Appendix D). Individual trees to be removed are shown in Table 6 and Figure 3. A total of 75 trees are recommended for removal due to impacts from construction within the proposed creek channel improvement area between West Edith Avenue Bridge and the Robleda Storm Drain Outlet. Fifty-four of the trees recommended for removal are in the proposed channel. One of these trees is a Heritage Oak (Tree No. 558), four are non-heritage size coast live oaks (Tree Nos. 538, 543, 554, and 558), and two are coast redwoods (Tree Nos. 505 and 506).

Eleven trees recommended for removal are located outside of the proposed channel but are very close to grading cuts. Six of the eleven are blackwood acacia (Tree Nos. 516-521) located on the south side of the channel. In this area, the channel will be moved to the south side of the trees. These trees could potentially be preserved because they are outside of the channel, but because they are an undesirable species (Table 4) and near the construction zone, it is recommended they be removed. The other five (Tree Nos. 560, 570, 572, 574, and 584) of the eleven are trees along the Astiz access road (Figure 3). The grading cut is very close to these trees (1 to 10 feet) and they are not expected to tolerate the impacts based on proximity to the grading cut and poor health.

The trees on the north side of the channel, just downstream of the bridge, were designated as highest priority to preserve by the Adobe Creek Watershed Group (Figure 3). Ten of them (Tree Nos. 210, 213, 215, 216-218, 220, 223, 224, and 234) are in poor health and would not likely survive in the long-term. The redwoods shown signs of decline. They have dead tops and thin foliage, and many have leaves only in the lower portion of the tree. They would not likely tolerate the impacts of having the gunite or retaining wall removed, or thrive in the long-term. If a goal of the project is to preserve these trees as a visual screen, these trees could be preserved. They are likely to decline over time but will not likely fail suddenly during construction activities, creating a hazard. If the trees are preserved, we recommend planting replacements for these trees to maintain a visual screen in the future.

Four oak trees (Tree Nos. 306, 307, 308, and 309) on the south bank of the channel are recommended for removal because they are severely undercut by erosion and their root balls are currently exposed and hanging over the edge of the bank. Two oak trees (Tree Nos. 304 and 305) have trunks that are currently leaning against each other. One of the two oaks must be removed or as the trees grow their trunks will damage each other. We recommend preserving Tree No. 305 because it has good upright form, and removing Tree No. 304 because it leans strongly over the creek. None of these oaks are of heritage size.

The Lombardy poplars in the middle of the channel (Tree Nos. 321, 322, and 591) are recommended for removal because they are resprouts of previously cut trees. In addition, Lombardy poplars are on the Santa Clara Valley Water District list of undesirable tree species (Table 4). Lombardy poplars have extremely intrusive root systems that are known to damage sidewalks and other structures. The trees and their root system should be removed from the channel prior to any channel stabilization work because their roots could push apart and damage any rock structures or other material that is put in place to stabilize the bank.

Twenty-three additional trees are recommended for removal because they are on the Santa Clara Valley Water District list of undesirable tree species and have detrimental habitat value (Table 4) (Tree Nos. 263, 264, 270, 274, 275, 291, 301, 314, 315, 316, 318, 336, 341, 563, 578, 579, 580, 582, 583, 586, 588, 589, 590, 615). Three of these trees are large blue gum trees (Tree Nos. 274, 275, 586) that are in yards close to homes, but are close enough to the creek to invade the creek area. A large blackwood acacia street tree (Tree no. 336) is recommended for removal because of the extremely invasive characteristics of the species. Of the total 135 trees recommended for removal, 82 are on the Santa Clara Valley Water District list of undesirable tree species (Table 4). These trees are listed as having "Detrimental habitat value" in the comments section in Table 6 and Appendix D.

The remaining trees recommended for removal are scattered throughout the study site and are recommended for removal because they have poor health and/or structure. One Heritage Oak (Tree No. 608) is recommended for removal because it has very poor form. It was cut previously at 1.5 feet above ground. It resprouted from the stump and has four main trunks that are very weakly attached.

Table 6. Trees Recommended for Removal

Tree No.	Species	DBH (inches)	Proposed Action	Comments on Proposed Action
210	Coast redwood	18	Remove	Poor health, will not tolerate impacts
213	Coast redwood	15	Remove*	Poor health, will not tolerate impacts
215	Coast redwood	12	Remove	Dead
216	Coast redwood	14	Remove*	Poor health and structure, will not tolerate impacts

---

* Trees marked with an asterisk in the Proposed Action column denote a change in Proposed Action from the January 2002 Tree Preservation Plan by HortScience.

Tree No.	Species	DBH (inches)	Proposed Action	Comments on Proposed Action
217	Coast redwood	14	Remove*	Poor health and structure, will not tolerate impacts
218	Blue gum	18	Remove*	Poor structure; very close to edge, will not tolerate impacts; Detrimental habitat value
220	Coast redwood	16	Remove*	Poor health and structure, will not tolerate impacts
223	Coast redwood	14	Remove*	Close to edge of vertical wall, poor health and structure, will not tolerate impacts
224	Coast redwood	11	Remove*	Close to edge of vertical wall, poor health, will not tolerate impacts
226	Blue elderberry	7	Remove	Poor health and structure
234	Coast redwood	12	Remove	Close to Grading line
242	Coast redwood	9	Remove	Poor health and structure; almost dead
244	Coast redwood	11	Remove	Concrete in front of trunk and behind; moderate health
253	Coast redwood	11	Remove	Poor health and structure
255	Coast redwood	8	Remove	Dead
259	Coast redwood	9	Remove*	Poor health and structure
260	Coast redwood	8	Remove*	Poor health and structure
261	Coast redwood	8	Remove*	Poor health and structure
263	Red ironbark	21	Remove*	Detrimental habitat value
264	Red ironbark	26	Remove*	Detrimental habitat value
266	Northern California black walnut	10	Remove	Poor health and structure; Detrimental habitat value
268	Coast redwood	8	Remove	Poor health and structure
270	Red ironbark	24	Remove*	Detrimental habitat value
271	Silver dollar gum	11	Remove	Poor health and structure; Detrimental habitat value
274	Blue gum	41	Remove*	Detrimental habitat value
275	Blue gum	48	Remove*	Detrimental habitat value
286	Blue elderberry	7	Remove	Poor health and structure
290	Blue elderberry	12	Remove*	Poor health and structure
291	Northern California black walnut	9	Remove*	Detrimental habitat value
295	Blue elderberry	24	Remove*	Poor health and structure
296	Plum	6,5	Remove	Poor health and structure; Detrimental habitat value
298	Plum	13	Remove	Poor health; Detrimental habitat value

Tree No.	Species	DBH (inches)	Proposed Action	Comments on Proposed Action
299	Blue elderberry	7	Remove	Dead
301	Northern California black walnut	19	Preserve	Detrimental habitat value
304	Coast live oak	10	Remove*	Leaning heavily over creek; trunk rubbing No. 305
306	Coast live oak	7	Remove	On edge of bank; soil eroded away from root ball
307	Coast live oak	6	Remove	On edge of bank; soil eroded away from root ball
308	Coast live oak	9	Remove	On edge of bank; soil eroded away from root ball
309	Coast live oak	4	Remove*	2.5 feet from edge; soil eroded away from root ball
311	Oriental arborvitae	9	Remove*	Poor health
312	Northern California black walnut	5	Remove*	Poor health and structure; Detrimental habitat value
313	Port Orford cedar	12	Remove*	Poor health and structure
314	Blue gum	16	Remove*	Detrimental habitat value
315	Olive	5,4	Remove*	Detrimental habitat value
316	Dwarf blue gum	28	Remove*	Detrimental habitat value
318	Olive	15	Remove*	Detrimental habitat value
321	Lombardy poplar	7	Remove	Invasive root; Detrimental habitat value
322	Lombardy poplar	6	Remove	Invasive roots; Detrimental habitat value
324	Coast redwood	42	Remove	In proposed channel
336	Blackwood acacia	7	Remove*	Detrimental habitat value
341	English walnut	19	Remove*	Detrimental habitat value
345	Canary Island date palm	36	Remove	In proposed channel
501	Northern California black walnut	6.5	Remove	In proposed channel; Detrimental habitat value
502	Blue gum	47.5	Remove	In proposed channel; Detrimental habitat value

Tree No.	Species	DBH (inches)	Proposed Action	Comments on Proposed Action
503	Blackwood acacia	13.6	Remove	In proposed channel; Detrimental habitat value
504	Blackwood acacia	16.4	Remove	In proposed channel; Detrimental habitat value
505	Coast redwood	21.3	Remove	In proposed channel
506	Coast redwood	27.3	Remove	In proposed channel
507	Blackwood acacia	11.1	Remove	In proposed channel; Detrimental habitat value
508	Blue gum	44.2	Remove	In proposed channel; Detrimental habitat value
509	Oriental arborvitae	10.4	Remove	In proposed channel
510	Oriental arborvitae	11.3	Remove	In proposed channel
511	Blackwood acacia	9.1	Remove	In proposed channel; Detrimental habitat value
512	Oriental arborvitae	11	Remove	In proposed channel
513	Blackwood acacia	10.4	Remove	In proposed channel; Detrimental habitat value
514	Blue gum	34.8	Remove	In proposed channel; Detrimental habitat value
515	Blue gum	23.5	Remove	Dead.
516	Blackwood acacia	9.5	Remove	Close to grading line; Detrimental habitat value
517	Blackwood acacia	25.3	Remove	Close to grading line; Detrimental habitat value
518	Blackwood acacia	13	Remove	Close to grading line; Detrimental habitat value
519	Blackwood acacia	7.9	Remove	Close to grading line; Detrimental habitat value
520	Blackwood acacia	11.5	Remove	Close to grading line; Detrimental habitat value
521	Blackwood acacia	23.4	Remove	Close to grading line; Detrimental habitat value
522	Blackwood acacia	6.7	Remove	In proposed channel; Detrimental habitat value
523	Blue gum	45.6	Remove	In proposed channel; Detrimental habitat value
524	Blue gum	27.1	Remove	In proposed channel; Detrimental habitat value

Tree No.	Species	DBH (inches)	Proposed Action	Comments on Proposed Action
525	Blue gum	35.6	Remove	In proposed channel; Detrimental habitat value
526	Blue gum	16.2	Remove	In proposed channel; Detrimental habitat value
527	Blue gum	35.7	Remove	In proposed channel; Detrimental habitat value
528	Blue gum	27.8	Remove	In proposed channel; Detrimental habitat value
529	Blue gum	14	Remove	In proposed channel; Detrimental habitat value
530	Blue gum	21.3	Remove	In proposed channel; Detrimental habitat value
531	Blue gum	13.4	Remove	In proposed channel; Detrimental habitat value
532	Blue gum	29.4	Remove	In proposed channel; Detrimental habitat value
533	Blue gum	15.5	Remove	In proposed channel; Detrimental habitat value
534	Blue gum	39.9	Remove	In proposed channel; Detrimental habitat value
535	Northern California black walnut	13.7	Remove	In proposed channel; Detrimental habitat value
536	California bay	16.8	Remove	In proposed channel
537	California buckeye	6.9	Remove	In proposed channel
538	Coast live oak	7.4	Remove	In proposed channel
539	California bay	20.3	Remove	In proposed channel
540	Glossy privet	19.6	Remove	In proposed channel; Detrimental habitat value
541	Glossy privet	8.6	Remove	In proposed channel; Detrimental habitat value
542	Blue gum	14.8	Remove	In proposed channel; Detrimental habitat value
543	Coast live oak	9.2	Remove	In proposed channel
544	Canary Island date palm	31.8	Remove	In proposed channel; Grading cut is very close to trunk
545	Blue gum	27.7	Remove	In proposed channel; Detrimental habitat value
546	Blue gum	22.4	Remove	In proposed channel; Detrimental habitat value

Tree No.	Species	DBH (inches)	Proposed Action	Comments on Proposed Action
547	Red ironbark	10.5	Remove	In proposed channel; Detrimental habitat value
548	Glossy privet	8.2	Remove	In proposed channel; Detrimental habitat value
549	Red ironbark	10.1	Remove	In proposed channel; Detrimental habitat value
550	Blue elderberry	14.5	Remove	In proposed channel
551	Blue gum	14.7	Remove	In proposed channel; Detrimental habitat value
552	Blue gum	31.9	Remove	In proposed channel; Detrimental habitat value
553	Glossy privet	10.1	Remove	In proposed channel; Detrimental habitat value
554	Coast live oak	10.9	Remove	In proposed channel
555	Glossy privet	7.8	Remove	In proposed channel; Detrimental habitat value
556	Glossy privet	15.4	Remove	In proposed channel; Detrimental habitat value
557	Glossy privet	10.6	Remove	In proposed channel; Detrimental habitat value
558	Coast live oak	11.3	Remove	In proposed channel
559	Blue gum	55.3	Remove	In proposed channel; Detrimental habitat value
560	Evergreen euonymous	22.3	Remove	Close to grading line
563	Blackwood acacia	6.9	Remove	Detrimental habitat value.
570	California incense cedar	17.7	Remove	Close to grading line
572	Blackwood acacia	6.4	Remove	Close to grading line; Detrimental habitat value
574	California incense cedar	18.8	Remove	Close to grading line; in poor health
578	Blackwood acacia	11.3	Remove*	Detrimental habitat value
579	Blackwood acacia	14.6	Remove*	Detrimental habitat value
580	Blackwood acacia	6	Remove*	Detrimental habitat value
582	Silver wattle	31.9	Remove*	Detrimental habitat value

Tree No.	Species	DBH (inches)	Proposed Action	Comments on Proposed Action
583	Blackwood acacia	9	Remove*	Detrimental habitat value
584	Olive	26.5	Remove	Close to grading line; Poor structure; Detrimental habitat value
586	Blue gum	38.3	Remove*	Detrimental habitat value
588	Plum	15	Remove*	Detrimental habitat value
589	Plum	13.5	Remove*	Detrimental habitat value
590	Plum	6.3	Remove*	Detrimental habitat value
591	Lombardy poplar	7.4	Remove	Invasive roots; Detrimental habitat value
604	California buckeye	9.1	Remove	Poor health and structure
605	Northern California black walnut	18.5	Remove	Poor health and structure; Detrimental habitat value
607	Blue elderberry	27.7	Remove	Poor health and structure
608	Coast live oak	19.9	Remove	Poor health and structure
611	Blue elderberry	19.2	Remove	Poor health and structure
615	Monterey pine	32	Remove*	Detrimental habitat value
620	Blue gum	6.9	Remove	In proposed channel; Detrimental habitat value
627	Blue elderberry	21	Remove	Poor health and structure

Tentatively Recommended for Preservation

Twenty-three trees are tentatively recommended for preservation (Table 7, Figure 3). More information is needed to fully evaluate their ability to survive construction impacts. The trees that are tentatively recommended for preservation are in two groups: the redwood row north of the channel, upstream from the Robleda Storm Drain, and the tree row along the south of the Astiz property access road. In addition, there is one California buckeye (Tree No. 319) that is right on the edge of the sackcrete wall, just downstream of the Robleda Storm drain. If no further stabilization work is done in that portion of the creek, the tree should be preserved. If there are plans to remove the sackcrete, the tree needs to be further evaluated because its roots are likely supported by the wall.

Nine trees (eight coast redwoods, and one valley oak) on the north side of the creek are tentatively recommended for preservation (Figure 3). Tree Nos. 207, 209, 211, and 212 are on the edge of the gunite wall. Tree Nos. 214, 219, 221, 221, and 233 are near the edge of the vertical wall in the channel bend. The decision whether to preserve or remove these trees, should be made by a certified arborist when the walls are removed during construction. If the bank remains stable, and no large supporting roots are exposed, then the trees will likely be able to be preserved. If the bank crumbles and exposes large numbers of supporting roots, then the trees may need to be removed because they are no longer stable. A certified arborist should be on site during construction to make this determination. It should be noted that redwood trees have a good relative tolerance for development impacts (Matheny and Clark 1998). If the trees are preserved, their long-term health and maintenance depends on strict adherence to recommendations for tree preservation.

Thirteen trees along the Astiz access road are conditionally recommended for preservation (Figure 3). The planned grading cut for the channel widening is within five to twelve feet of the trunks of these trees. Eight of the trees are Oriental arborvitae, which are small multi-stemmed trees, and likely will tolerate construction impacts. In addition, if they die they will not likely become hazardous trees because of their small size. Four of the trees are California incense cedar (Tree Nos. 561, 564, 569, and 573), which have a moderate tolerance to development impacts (Matheny and Clark 1998). If the structural stability of the incense cedars is compromised by cutting structural roots during grading, these trees could become hazardous to on-site workers. In addition, one tree (Tree 575) in this group is a Heritage Oak.

The decision whether to preserve or remove the trees along the Astiz access road should be made by a certified arborist when the grading cuts are made. If large structural roots or large numbers of small roots are encountered, then the trees should be removed. If the owners want the trees preserved, we recommend hiring a certified arborist to ascertain the location of the tree roots. This can be done using an air knife, which uses compressed air to dig a trench and expose roots without damaging them. Based on the location of roots, the grading edge may remain the same or may need to be moved away from the trunks of the trees, to assure successful preservation.

Table 7. Trees Tentatively Recommended for Preservation

Tree No.	Species	DBH (inches)	Proposed Action	Comments on Proposed Action
207	Coast redwood	15	Tentatively Preserve*	Close to gunite wall; Recommend based on bank stability
209	Coast redwood	16	Tentatively Preserve*	Close to gunite wall; Recommend based on bank stability
211	Coast redwood	24	Tentatively Preserve*	Close to gunite wall; Recommend based on bank stability
212	Coast redwood	24	Tentatively Preserve*	Close to gunite wall; Recommend based on bank stability
214	Valley Oak	18	Tentatively Preserve*	Channel moves away, but close to existing bank
219	Coast redwood	12	Tentatively Preserve*	Close to edge; Removing neighboring trees
221	Coast redwood	36	Tentatively Preserve*	Close to edge of vertical wall

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[*] Trees marked with an asterisk in the Proposed Action column denote a change in Proposed Action from the January 2002 Tree Preservation Plan by HortScience.

Tree No.	Species	DBH (inches)	Proposed Action	Comments on Proposed Action
233	Coast redwood	17	Tentatively Preserve*	Extremely close to bank but existing wall will remain
235	Coast redwood	9	Tentatively Preserve*	6' from wall edge now, but in plan channel gets closer to trunk
319	California buckeye	21	Tentatively Preserve*	On edge of sackcrete wall. No work scheduled currently
561	California incense cedar	13.8	Tentatively Preserve	Close to grading line; row along drive
562	Oriental arborvitae	17.7	Tentatively Preserve	Close to grading line; row along drive
564	California incense cedar	15.4	Tentatively Preserve	Close to grading line; row along drive
565	Oriental arborvitae	22.1	Tentatively Preserve	Close to grading line; row along drive
566	Oriental arborvitae	23.3	Tentatively Preserve	Close to grading line; row along drive
567	Oriental arborvitae	19.2	Tentatively Preserve	Close to grading line; row along drive
568	Oriental arborvitae	23.2	Tentatively Preserve	Close to grading line; row along drive
569	California incense cedar	11	Tentatively Preserve	Close to grading line; row along drive
571	Oriental arborvitae	15	Tentatively Preserve	Close to grading line; row along drive
573	California incense cedar	19.7	Tentatively Preserve	Close to grading line; row along drive
575	Coast live oak	23.1	Tentatively Preserve	Close to grading line; row along drive
576	Oriental arborvitae	9.4	Tentatively Preserve	Close to grading line; row along drive
577	Oriental arborvitae	22.3	Tentatively Preserve	Close to grading line; row along drive

Tree Preservation

There are 134 trees recommended for preservation (Table 8, Figure 3). Many of the trees recommended for preservation have moderate to good health and are outside the immediate construction area. Several trees are near the construction area, have good suitability for preservation, and will tolerate construction impacts; however, careful attention to the tree preservation guidelines will be essential for their survival. Tree preservation guidelines are detailed below in Section 6.0.

Ten trees are recommended for preservation, although they are on the Santa Clara Valley Water District list of undesirable tree species (Table 4). These ten Monterey pine trees (Tree Nos. 333-335, 337-340, and 342-344) are in a row of street trees that are adjacent to West Edith Avenue, outside of the immediate project area (Figure 3). They were included in this survey because we included all trees surveyed as part of the January 2002 Tree Preservation Plan by HortScience, regardless of their location. One tree in this row (Tree no. 336) is recommended for removal because it is a blackwood acacia which are extremely invasive and spread rapidly.

Table 8. Trees Recommended for Preservation

Tree No.	Species	DBH (inches)	Proposed Action	Comments on Proposed Action
201	Coast redwood	35	Preserve	
202	Coast redwood	14	Preserve	
203	Coast redwood	23	Preserve	
204	Coast redwood	25	Preserve	
205	Coast redwood	25	Preserve	
206	Coast redwood	39	Preserve	Healthy tree that is 8' from wall
208	Coast redwood	21	Preserve	Healthy tree that is 8' from wall
222	Coast redwood	16	Preserve	
225	Coast redwood	22	Preserve	
227	Cork oak	12	Preserve	
228	Coast redwood	16	Preserve	
229	Coast redwood	26	Preserve	
230	Coast redwood	38	Preserve	
232	Grecian Laurel	11	Preserve	
237	Coast redwood	15	Preserve	
238	Coast redwood	9	Preserve	
239	Port Orford cedar	8	Preserve	
240	Coast redwood	32	Preserve	
241	Coast redwood	40	Preserve	
243	Coast redwood	9	Preserve	
245	Coast redwood	19	Preserve	On edge of steep slope but existing gunite is to remain

Tree No.	Species	DBH (inches)	Proposed Action	Comments on Proposed Action
246	Coast redwood	32	Preserve	On edge of steep slope but existing gunite is to remain
247	Coast redwood	13	Preserve	On edge of steep slope but existing gunite is to remain
248	Coast redwood	10	Preserve	On edge of steep slope but existing gunite is to remain
249	Coast redwood	28	Preserve	On edge of steep slope but existing gunite is to remain
250	Coast redwood	12	Preserve	On edge of steep slope but existing gunite is to remain
251	Coast redwood	13	Preserve	On edge of steep slope but existing gunite is to remain
252	Coast redwood	17	Preserve	On edge of steep slope but existing gunite is to remain
254	Coast redwood	15	Preserve	On edge of steep slope but existing gunite is to remain
256	Coast redwood	21	Preserve	On edge of steep slope but existing gunite is to remain
257	Coast redwood	15	Preserve	On edge of steep slope but existing gunite is to remain
258	Coast redwood	31	Preserve	On edge of steep slope but existing gunite is to remain
262	Coast redwood	9	Preserve	On edge of steep slope but existing gunite is to remain
265	Coast redwood	9	Preserve	On edge of steep slope but existing gunite is to remain
267	Coast redwood	21	Preserve	On edge of steep slope but existing gunite is to remain
269	California bay	5	Preserve	
272	California buckeye	6	Preserve*	
273	Coast live oak	26	Preserve	
276	Coast redwood	8	Preserve	
277	Coast redwood	17	Preserve	
278	Coast redwood	10	Preserve	
279	Coast redwood	7	Preserve	
280	Coast redwood	8	Preserve	

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* Trees marked with an asterisk in the Proposed Action column denote a change in Proposed Action from the January 2002 Tree Preservation Plan by HortScience.

Tree No.	Species	DBH (inches)	Proposed Action	Comments on Proposed Action
283	California incense cedar	7	Preserve	
284	Date plum	11	Preserve*	
285	California buckeye	12	Preserve	
287	California buckeye	20	Preserve*	
288	California buckeye	20	Preserve*	
289	California buckeye	23	Preserve*	
292	California incense cedar	21	Preserve	
293	California incense cedar	22	Preserve	
294	Coast live oak	17	Preserve	
297	California buckeye	4	Preserve	
300	Coast live oak	15	Preserve	
302	California buckeye	5	Preserve	
303	Coast live oak	10	Preserve	
305	Coast live oak	5	Preserve	
310	Valley Oak	22	Preserve	
317	Coast live oak	11	Preserve	
320	California bay	7	Preserve	
323	Coast redwood	38	Preserve*	
325	Coast redwood	53	Preserve	
326	Coast redwood	32	Preserve	
327	Coast redwood	26	Preserve	
328	Coast redwood	21	Preserve	
329	Coast redwood	26	Preserve	
330	Coast redwood	48	Preserve	
331	Coast redwood	32	Preserve	
332	Coast redwood	19	Preserve	
333	Monterey pine	12	Preserve	Detrimental habitat value; Outside of immediate project area
334	Monterey pine	13	Preserve	Detrimental habitat value; Outside of immediate project area

Tree No.	Species	DBH (inches)	Proposed Action	Comments on Proposed Action
335	Monterey pine	13	Preserve	Detrimental habitat value; Outside of immediate project area
337	Monterey pine	13	Preserve	Detrimental habitat value; Outside of immediate project area
338	Monterey pine	17	Preserve	Detrimental habitat value; Outside of immediate project area
339	Monterey pine	13	Preserve	Detrimental habitat value; Outside of immediate project area
340	Monterey pine	13	Preserve	Detrimental habitat value; Outside of immediate project area
342	Monterey pine	14	Preserve*	Detrimental habitat value; Outside of immediate project area
343	Monterey pine	18	Preserve	Detrimental habitat value; Outside of immediate project area
344	Monterey pine	16	Preserve	Detrimental habitat value; Outside of immediate project area
581	Oriental arborvitae	14.2	Preserve	
585	Photinia	17.6	Preserve	
587	California incense cedar	15.9	Preserve	
592	Coast live oak	7.4	Preserve	
593	California bay	14	Preserve	
594	Coast redwood	35	Preserve	
595	Coast redwood	22.1	Preserve	
596	Coast redwood	15.5	Preserve	
597	Coast redwood	19.5	Preserve	
598	Coast redwood	21.5	Preserve	
599	Coast redwood	28.8	Preserve	
600	Coast redwood	30	Preserve	
601	Coast redwood	26.7	Preserve	
602	Coast redwood	37.8	Preserve	
603	Coast redwood	13.5	Preserve	
606	California buckeye	11.5	Preserve	
609	California buckeye	11.1	Preserve	
610	Coast redwood	12.8	Preserve	
612	Blue elderberry	13.7	Preserve	
613	Coast live oak	26.6	Preserve	

Tree No.	Species	DBH (inches)	Proposed Action	Comments on Proposed Action
614	California buckeye	9.5	Preserve	
616	California buckeye	6.2	Preserve	
617	Coast redwood	21.8	Preserve	
618	Coast redwood	20.1	Preserve	
619	Coast redwood	20.9	Preserve	
621	Coast redwood	28	Preserve	
622	Coast redwood	21	Preserve	
623	Coast redwood	26.5	Preserve	
624	Coast redwood	18	Preserve	
625	Coast redwood	26	Preserve	
626	Coast redwood	12	Preserve	
628	Valley Oak	13	Preserve	

Trees not included in this survey should be assumed to receive a recommendation for preservation. This includes trees near the staging areas and access routes.

6.0 TREE PRESERVATION GUIDELINES

The goal of tree preservation is not merely tree survival during construction but maintenance of tree health and beauty for many years. Trees retained on site, which are subject to extensive injury during construction or are inadequately maintained, become a liability rather than an asset. The response of individual trees will depend on the species, condition, amount of excavation and grading, the care with which demolition and construction is taken and post-construction care.

Tree preservation guidelines were prepared to assist in the protection of trees within or near the grading limits or near construction zones. Specific tree protection measures must be in place prior to the initiation of construction activities. Specific guidelines are provided to assure survival of all trees designated for preservation. A certified arborist is required to supervise construction activities that could result in injury to trees specified for preservation. If tree protection measures cannot be strictly followed, consideration should be given to tree removal as the most practical measure.

The following recommendations will help reduce impacts to trees from development and maintain and improve their health throughout the construction process.

6.1 Pre-construction Treatments and Recommendations

Prior to the start of construction, the Santa Clara Valley Water District's engineer, the project superintendent, and the certified arborist will meet to:

- Determine the location of tree protection fencing.
- Review planned work procedures around trees such as demolition of wall, excavation of creek channel, and construction of new walls.
- Review the need for certified arborist approval for any adjustment of the tree protection fencing and/or need to work within the fenced areas.
- Identify locations where specialized treatments are required.
- Review the requirements for clearance pruning based on contractor's equipment.

Tree Removal

Tree removal work should be completed prior to the initiation of construction. All trees to be removed will be identified by flagging or paint. Care should be taken not to damage trees to be preserved during pruning or felling. Vehicle travel routes should be clearly identified to avoid compacting soils around trees to be preserved.

All tree removal shall be performed by a tree care contractor possessing a State of California Contractors License for Tree Service (C61-D49) and providing proof of workman's compensation and general liability insurance. All tree removal shall be supervised by a certified arborist. All operations shall be in accordance with the Tree Pruning Guidelines (International Society of Arboriculture) and adhere to the most recent editions of the American National Standard for Tree Care Operations (ANSI Z133.1) and Pruning (A300).

Pruning

Pruning should be kept to the minimum necessary for safety, improving long-term tree structure, and providing the necessary clearance for construction equipment. All pruning shall be performed by a tree care contractor possessing a State of California Contractors License for Tree Service (C61-D49) and providing proof of workman's compensation and general liability insurance. All pruning shall be supervised by a certified arborist. All operations shall be in accordance with the Tree Pruning Guidelines (International Society of Arboriculture) and adhere to the most recent editions of the American National Standard for Tree Care Operations (ANSI Z133.1) and Pruning (A300).

Tree Protection Zone

A Tree Protection Zone will be established for all trees to be preserved. The tree protection zone will be fenced prior to beginning of construction on site. No grading, construction, trenching, demolition, vegetation removal, or other work shall be allowed in this area. No excess soil, chemicals, debris, equipment, or other materials shall be dumped or stored within the tree protection zone. Any work that needs to occur within the tree protection zone shall be directly supervised by a certified arborist.

The dripline method and trunk diameter method are two methods commonly used to identify the radius of the tree protection zone. The dripline is defined as the outline of the tree canopy as projected on the ground below. It is generally used to imply the area in which a majority of the structural roots occur. A dripline is calculated using the radial distance of the farthest spread surrounding the entire tree. This generalization does not necessarily apply to leaning trees, which produce tensile roots on the opposite side of the lean. It also does not apply to trees that have very narrow crowns such as conifers. In many species, tree roots can extend as much as three times beyond the drip line. The trunk diameter method assumes a relationship between a tree's diameter at breast height and the extensiveness of the root system. The critical root zone is designated by measuring one foot outward from the tree trunk for each one-inch of diameter at breast height. For example, a 30-inch diameter at breast height tree would have a critical root zone extending 30 feet from the base around the entire tree.

Both the dripline method and trunk diameter method will be used to determine the tree protection zone. Whichever measurement occurs farthest from the tree trunks shall be used to determine the tree protection zone. The tree protection zone shall be marked by temporary protective fencing, consisting of four-foot orange plastic construction fencing, attached to steel fence posts (*i.e.* t-posts). The fencing may only be relocated by a certified arborist in consultation with the Santa Clara Valley Water District's engineer. The Santa Clara Valley Water District's engineer shall review the presence of protective fencing prior to the start of construction. Fences are to remain until all grading and construction is completed.

Pre-Construction Meeting with all Construction Personnel

A certified arborist should conduct a pre-construction meeting to explain the tree protection requirements and all construction supervisors should attend. Grading limits, travel routes, stockpile areas, equipment servicing areas, no-travel areas, and trees to be preserved should be clearly indicated on grading or construction plans. All on site personnel should be provided with an orientation to tree preservation measures and rules. Personnel must understand that access to or work within the tree protection zone is restricted and must be supervised by the certified arborist.

6.2 Recommendations for Tree Protection During Construction

No grading, construction, trenching, demolition or other work shall be allowed in the tree protection zone. No excess soil, chemicals, debris, equipment, or other materials shall be dumped or stored within the tree protection zone. Any work that needs to occur within the tree protection zone shall be directly supervised by a certified arborist. Any modifications must be approved and monitored by the certified arborist.

These specific construction procedures are to be employed:

- The walls on the north side of the creek channel that are being removed must be demolished without damaging tree roots. The new wall shall be constructed in the position of the old wall without excavation of soil around the trees. The irrigation system on this property must be functional throughout the construction period. In addition the certified arborist may specify additional irrigation.

- If the row of trees along the Astiz access road is preserved, they must be root-pruned prior to excavation of the new channel. Once the edge of the channel has been staked, roots along this edge must be pruned during excavation. Soil may be excavated using a backhoe to work perpendicular to the edge of the bench. As roots are encountered, they are to be pruned at the edge of excavation under supervision of a certified arborist.

- Any root pruning required for construction purposes shall receive prior approval of, and be supervised by, the certified arborist. Any roots greater than 1 inch in diameter that are injured (torn, broken, wounded, desiccated etc.) during construction must be pruned to a point 1 inch behind the edge of the damage.

- Water stress is detrimental to tree health, particularly during the spring. Supplemental irrigation is required whenever tree roots are uncovered or severed by trenching or grading. Open trenches with exposed roots require a two-layer minimum of damp burlap or other acceptable covering at all times. Exposed roots should be kept moist until they can be buried. A certified arborist will determine the amount of supplemental watering required based on evaluation of soil moisture and weather conditions. In addition, any damage to existing irrigation systems must be reported to the project superintendent and the District's engineer.

- If injury should occur to any tree during construction, including broken branches, it should be evaluated as soon as possible by the certified arborist so that appropriate treatments can be applied.

- Any additional tree pruning needed for clearance during construction must be performed under supervision of a certified arborist and not by construction personnel.

6.3 Post-Construction Preservation

Trees preserved at the Adobe Creek Upper Reach 5 site will experience physical environment different from that pre-development. As a result, a management plan for the trees that includes pruning, fertilization, mulch, pest management, replanting, and irrigation must be developed.

Regular visual inspection of impacted trees should be performed to assess tree health. Visual assessments of decline for specific trees should be recorded and referenced against this pre-construction health assessment. The management plan should include an annual inspection for hazard potential.

7.0 REFERENCES

HortScience. 2002. *Tree Preservation Plan: Adobe Creek-Reach5, Los Altos-Los Altos Hills, CA.* January.

Hosseini and Hdah, 2005. *Adobe Creek Upper Reach 5 Project, West Edith Avenue Bridge to 1,100 feet downstream, Project Description.* October 17.

Matheny, Nelda, and James Clark. 1998. *Trees and Development. International Society of Arboriculture.*

Figure 3

Tree Locations and Proposed Actions

Adobe Creek Upper Reach 5
Santa Clara Valley Water District

Los Altos & Los Altos Hills,
Santa Clara County, California

Legend

Tree Priority

○ Tree of Particular Value

Tree to Save if Possible

Proposed Action for Tree

● Preserve

● Tentatively Preserve

● Remove

Proposed Top of Bank

Collaborative Blue Line

Easement Line

Staging Area

Robleda Storm Drain

11/17/05 1:360
1 inch equals 30 feet
1 cm equals 3.6 meters

N

0 25 50 100 Feet

0 3 6 12 18 24 30 Meters

This document provided for the sole use of the Santa Clara Valley Water District. Topographic contours provided by the Santa Clara Valley Water District. Biological conditions as noted during field reconnaissance (Fall 2005). Conditions may vary and may be revised at a later date. This document is not intended for detailed design work

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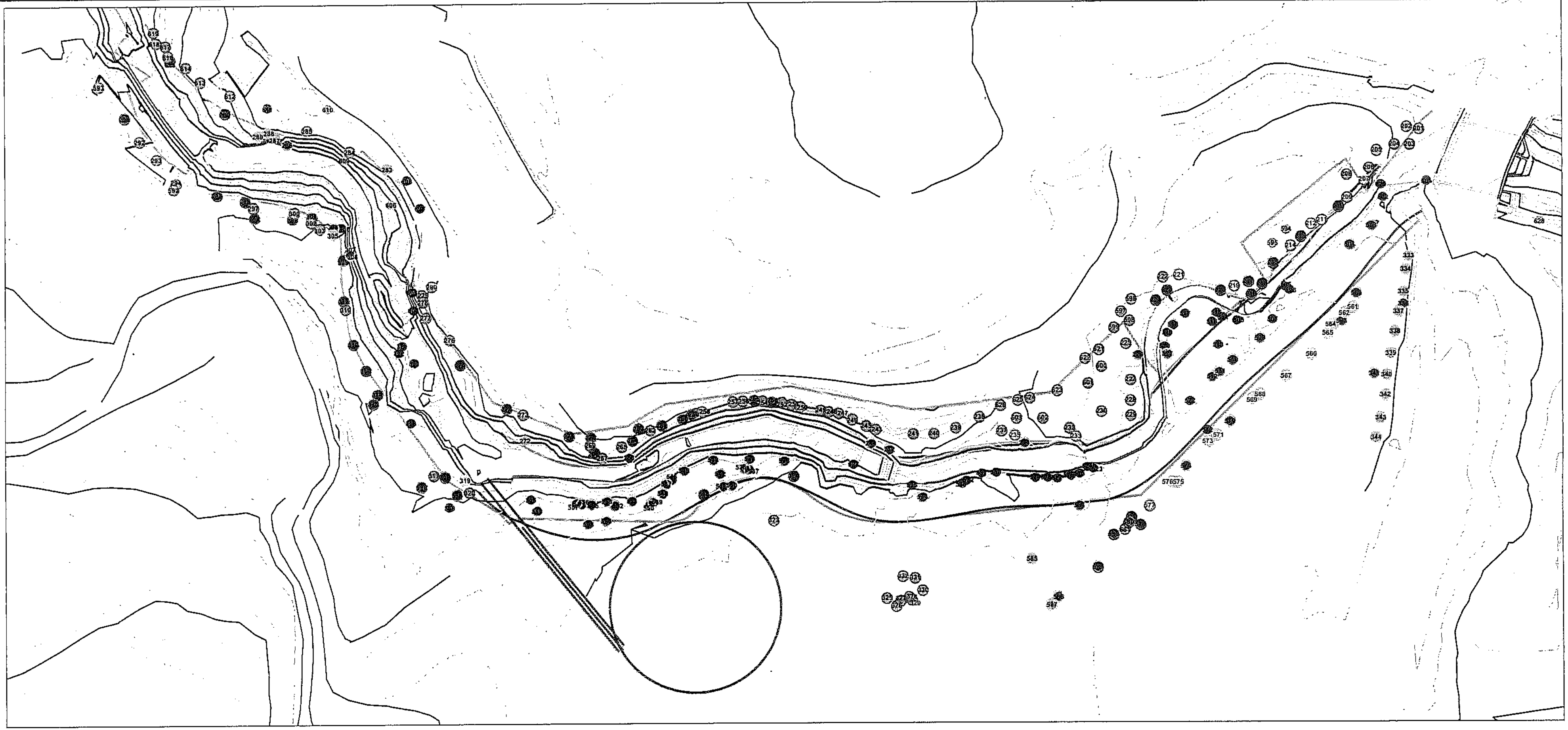

Figure 3

Tree Locations and Proposed Action

Adobe Creek Upper Reach 5
Santa Clara Valley Water District

Los Altos & Los Altos Hills,
Santa Clara County, California

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Legend

Tree Priority*	
○ Tree of Particular Value	Proposed Top of Bank
○ Tree to Save if Possible	Collaborative Blue Line
Proposed Action for Tree**	Easement Line
	⬭ Staging Area
● Preserve	╲ Robleda Storm Drain
Tentatively Preserve	
● Remove	

* As designated by the Adobe Creek Watershed Group. Trees of Particular Value are the highest priority and Trees to Save if Possible are the second highest priority for preservation.
**As recommended by Sycamore Associates.

Revised 8/22/06 1:360
1 inch equals 30 feet
1 cm equals 3.6 meters

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APPENDIX A
Tree Survey Summary Data and Suitability Ratings

Appendix A
Adobe Creek Reach 5, City of Los Altos and Town of Los Altos Hills

Tree No.	Survey No.	Property Owner	Scientific Name	Species	Trunk Diameter	dbh1	dbh2	dbh3	dbh4	dbh5	dbh6	Condition	Suitability for Preservation	Comments
201	6493	Lemp/Millar	*Sequoia sempervirens*	Coast redwood	35							5	Good	3' from fence;edge; good tree.
202	6494	Lemp/Millar	*Sequoia sempervirens*	Coast redwood	14							4	Good	Thin upper crown; otherwise good; 10' to fence.
203	6495	Lemp/Millar	*Sequoia sempervirens*	Coast redwood	23							4	Moderate	Codominant trunks at 20'; narrow attachment with upright stems; 2.5'.
204	6496	Lemp/Millar	*Sequoia sempervirens*	Coast redwood	25							5	Good	5.5' from fence; good tree.
205	6497	Lemp/Millar	*Sequoia sempervirens*	Coast redwood	25							5	Good	6' from fence; good tree.
206	6498	Lemp/Millar	*Sequoia sempervirens*	Coast redwood	39							5	Good	Huge burl @base; 4' to fence.
207	6075	Lemp/Millar	*Sequoia sempervirens*	Coast redwood	15							4	Moderate	Edge of bank; one-sided due to utility lines; heavy to creek; outside fence; some tip dieback; full canopy.
208	-	Levis	*Sequoia sempervirens*	Coast redwood	21							3	Moderate	5' to fence; leans N. away from creek; one-sided; bark is torn on tension side.
209	6077	Levis	*Sequoia sempervirens*	Coast redwood	16							4	Good	Edge of bank; gunite; good form.
210	6076	Levis	*Sequoia sempervirens*	Coast redwood	18							1	Poor	Poor health, almost dead.
211	6081	Levis	*Sequoia sempervirens*	Coast redwood	24							2	Moderate	Edge of bank; gunite; stag-headed from halfway up to tip; lower foliage good; concrete up to base of trunk.
212	6082	Levis	*Sequoia sempervirens*	Coast redwood	24							3	Moderate	Edge of bank; gunite; irregular crown; thin foliage.
213	6083	Levis	*Sequoia sempervirens*	Coast redwood	15							2	Poor	Edge of bank; gunite; thin foliage; branch dieback; engulfed in ivy.
214	6084	Levis	*Quercus lobata*	Valley oak	18							4	Good	Edge of bank; gunite; upright; thin canopy; ivy climbing trunk; wires through crown.
215	6085	Levis	*Sequoia sempervirens*	Coast redwood	12							0	Poor	Dead; engulfed in ivy.
216	6140	Levis	*Sequoia sempervirens*	Coast redwood	14	6	4	4				2	Poor	Multiple attachments at base, trunks are dead and declining; 1' from wall
217	6139	Theis	*Sequoia sempervirens*	Coast redwood	14							2	Poor	Upper crown dead; stag-headed.
218	6141	Theis	*Eucalyptus globulus*	Blue gum	18	12	6					3	Poor	Codominant trunks @ base & 4'; included bark at 4', 1' from wall; very thin foliage.
219	6138	Theis	*Sequoia sempervirens*	Coast redwood	12							3	Moderate	Flat-topped and dieback at tip; may have been topped; bark damage; 6' from wall.
220	6137	Theis	*Sequoia sempervirens*	Coast redwood	16							3	Moderate	Trunk pushes against wall; crown one-sided towards creek; thin upper canopy.
221	6136	Theis	*Sequoia sempervirens*	Coast redwood	36							5	Good	7' from wall; good form; excellent tree.
222	6142	Theis	*Sequoia sempervirens*	Coast redwood	16							4	Moderate	Crook in trunk but corrected; 11.5' from wall.
223	6144	Theis	*Sequoia sempervirens*	Coast redwood	14							2	Poor	2.5' from wall; one-sided to creek.
224	6145	Theis	*Sequoia sempervirens*	Coast redwood	11							3	Moderate	Corrected lean; one-sided but upright crown; 3' to wall; very thin in lower canopy.
225	-	Wittner	*Sequoia sempervirens*	Coast redwood	22							4	Moderate	Trunk 10' from wall ; dead wood to 3'; leader is broken; branch is new leader..
226	6163	Wittner	*Sambucus mexicana*	Elderberry	7							3	Poor	Leans towards creek; dead wood; poor form; 3' from wall but canopy over creek.
227	6162	Wittner	*Quercus suber*	Cork oak	12							3	Moderate	High, narrow, irregular canopy; 12' from wall.
228	6161	Wittner	*Sequoia sempervirens*	Coast redwood	16							3	Moderate	Upper crown dead; irregular form; 12' to wall.
229	6158	Wittner	*Sequoia sempervirens*	Coast redwood	26							3	Moderate	Stag-headed; 10' from wall; healthy foliage in lower canopy.
230	6158	Wittner	*Sequoia sempervirens*	Coast redwood	38							4	Good	Good form; twig dieback; irregular crown but appears healthy; wall at edge of canopy.
231	6160	Wittner	*Sequoia sempervirens*	Coast redwood	14							0	NA	Stump.
232	6164	Wittner	*Umbellularia californica*	California bay	11							4	Moderate	Narrow crown with numerous sprouts; 8' from wall.
233	6165	Wittner	*Sequoia sempervirens*	Coast redwood	17							4	Good	Edge of bank; gunite; thin crown; top 2 ' of leader is dead.
234	6171	Seligman	*Sequoia sempervirens*	Coast redwood	12							5	Good	Edge of bank; gunite; good form.
235	6170	Seligman	*Sequoia sempervirens*	Coast redwood	9							4	Good	Top broken off; healthy overall; 5' from gunite.
236	6173	Seligman	*Prunus ilicifolia*	Hollyleaf cherry	11							0	NA	Stump.
237	6172	Seligman	*Sequoia sempervirens*	Coast redwood	15							3	Moderate	Good form but long trunk wound on creek side; top of leader is dead; 8' from gunite.
238	6201	Seligman	*Sequoia sempervirens*	Coast redwood	9							3	Moderate	Top dead; 2 branches have formed new leaders; healthy foliage.
239	6200	Seligman	*Chamaecyparis lawsoniana*	Port Orford cedar	8							4	Moderate	Suppressed; leaf dieback; long trunk wound on creek side near base; 12' from gunite.
240	6203	Seligman	*Sequoia sempervirens*	Coast redwood	32							4	Good	Huge tree; flat-topped; otherwise good; 14' from gunite.
241	6204	Echerd	*Sequoia sempervirens*	Coast redwood	40	34	6					5	Good	Inside fence; full canopy; good tree.
242	6213	Echerd	*Sequoia sempervirens*	Coast redwood	9							1	Poor	Main trunk is dead. Sprout from base is alive (5.1 inches at dbh).
243	6212	Echerd	*Sequoia sempervirens*	Coast redwood	9							3	Moderate	Suppressed; flat-topped; 8' from bank.
244	6214	Echerd	*Sequoia sempervirens*	Coast redwood	11							3	Poor	Close to edge of bank; concrete at base of trunk; one-sided to creek.
245	6215	Echerd	*Sequoia sempervirens*	Coast redwood	19							3	Moderate	Irregular form with bow in trunk; one-sided to creek; 6' from edge.
246	6216	Echerd	*Sequoia sempervirens*	Coast redwood	32							4	Good	Huge tree; sparsely branched; at top of bank.
247	6217	Echerd	*Sequoia sempervirens*	Coast redwood	13							4	Good	Edge of bank; one-sided; intermediate.
248	6218	Echerd	*Sequoia sempervirens*	Coast redwood	10							3	Moderate	Edge of bank; crook in trunk but with leader; poor form.
249	6219	Echerd	*Sequoia sempervirens*	Coast redwood	28							4	Good	Huge tree; edge; exposed roots; good form.
250	6220	Echerd	*Sequoia sempervirens*	Coast redwood	12							4	Moderate	Edge; hammock tree; intermediate; one-sided.
251	6221	Echerd	*Sequoia sempervirens*	Coast redwood	13							4	Moderate	Edge; on steep slope; intermediate; one-sided.
252	6222	Echerd	*Sequoia sempervirens*	Coast redwood	17							4	Moderate	Edge; codominant; one-sided; no foliage on lower trunk.
253	6223	Echerd	*Sequoia sempervirens*	Coast redwood	11							2	Poor	Edge; topped; poor, brown foliage.
254	6224	Echerd	*Sequoia sempervirens*	Coast redwood	15							3	Poor	Edge; poor form; crook in trunk.
255	6225	Echerd	*Sequoia sempervirens*	Coast redwood	8							0	Poor	Dead.
256	6226	Echerd	*Sequoia sempervirens*	Coast redwood	21							4	Moderate	Edge; healthy tree.
257	6227	Echerd	*Sequoia sempervirens*	Coast redwood	15	10	5					3	Moderate	Edge; codominant trunks @ 2'; topped; sparsely branched.
258	6261	Lippe	*Sequoia sempervirens*	Coast redwood	31							5	Good	Very close to edge; slight bow at base; good form.

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Adobe Creek Reach 5, City of Los Altos and Town of Los Altos Hills

Tree No.	Survey No.	Property Owner	Scientific Name	Species	Trunk Diameter	dbh1	dbh2	dbh3	dbh4	dbh5	dbh6	Condition	Suitability for Preservation	Comments
259	6262	Lippe	*Sequoia sempervirens*	Coast redwood	9							3	Poor	Edge; upper crown dead.
260	6263	Lippe	*Sequoia sempervirens*	Coast redwood	8							3	Poor	Edge; suppressed; flat-topped.
261	6264	Lippe	*Sequoia sempervirens*	Coast redwood	8							3	Poor	Edge; suppressed; flat-topped due to oak branch.
262	6265	Lippe	*Sequoia sempervirens*	Coast redwood	9							3	Moderate	Edge; flat-topped due to oak branch.
263	6267	Lippe	*Eucalyptus sideroxylon*	Red ironbark	21							4	Moderate	High; irregular crown; very narrow canopy; 4' to edge.
264	6268	Lippe	*Eucalyptus sideroxylon*	Red ironbark	26							3	Poor	Edge; leans toward creek; irregular crown.
265	6266	Lippe	*Sequoia sempervirens*	Coast redwood	9							2	Poor	Edge; intermediate; long crack in trunk with decay.
266	6273	Lippe	*Juglans californica var. hindsii*	Northern California black walnut	10							3	Poor	Close to edge of bank; irregular form; dead bark at base.
267	6272	Lippe	*Sequoia sempervirens*	Coast redwood	21							4	Moderate	Close to edge of bank!!; exposed roots; good tree.
268	6271	Lippe	*Sequoia sempervirens*	Coast redwood	8							1	Poor	Topped with crack down trunk.
269	6270	Lippe	*Umbellularia californica*	California bay	5							3	Moderate	One-sided form; bolt in trunk.
270	6269	Lippe	*Eucalyptus sideroxylon*	Red ironbark	24							3	Poor	Crook in trunk; high crown with codominant trunks at 25'; thin canopy.
271	6286	Lippe	*Eucalyptus polyanthemos*	Silver dollar gum	11							1	Poor	Topped with small crown of reprouts; edge.
272	6289	Lippe	*Aesculus californica*	California buckeye	6							4	Good	Grows out of side of bank; good tree.
273	6287	Remmel	*Quercus agrifolia*	Coast live oak	26							3	Moderate	Narrow, upright, irregular crown; old scaffold failure on crekk side; trunk wound.
274	6288	Remmel	*Eucalyptus globulus*	Blue gum	41							3	Moderate	Huge tree; 3' from sackcrete; good form; branch dieback to 3'; branch shortening.
275	6290	Remmel	*Eucalyptus globulus*	Blue gum	48							4	Good	Tree house tree; huge tree; good form; 4' from gunite.
276	6291	Remmel	*Sequoia sempervirens*	Coast redwood	8							3	Moderate	Topped with branch becoming new leader.
277	6292	Remmel	*Sequoia sempervirens*	Coast redwood	17							4	Moderate	Close to edge of bank; good form; alone.
278	6293	Remmel	*Sequoia sempervirens*	Coast redwood	10							4	Moderate	Edge; good form but thin canopy.
279	6294	Remmel	*Sequoia sempervirens*	Coast redwood	7							3	Moderate	Flat-topped; intermediate.
280	6295	Remmel	*Sequoia sempervirens*	Coast redwood	8							3	Moderate	Flat-topped; intermediate.
281	6297	Robinwood Pool Inc.	*Pinus radiata*	Monterey pine	24							0	NA	Stump.
282	-	Robinwood Pool Inc.	*Calocedrus decurrens*	California incense cedar	16							0	NA	Stump.
283	6298	Robinwood Pool Inc.	*Calocedrus decurrens*	California incense cedar	7							3	Moderate	Leans toward creek; one-sided crown.
284	6300	Van Horne	*Diospyros lotus*	Date plum	11	6	5					2	Poor	Codominant trunks at base; topped at 5'; poor.
285	6303	Van Horne	*Aesculus californica*	California buckeye	12	6	3	3				3	Moderate	Edge; bowed away from creek; irregular form; cavity at base.
286	6305	Van Horne	*Sambucus mexicana*	Elderberry	7							3	Poor	Untagged; mid-bank; exposed roots.
287	6306	Van Horne	*Aesculus californica*	California buckeye	20	6	6	5	3			4	Moderate	Close to edge of bank; multiple attachments at base; crown heavy over creek.
288	6307	Van Horne	*Aesculus californica*	California buckeye	20	5	5	4	2	2	2	4	Moderate	Close to edge of bank; multiple attachments at base; good form.
289	6308	Van Horne	*Aesculus californica*	California buckeye	23	5	5	4	3	3	3	3	Moderate	Close to edge of bank; multiple attachments at base; crown heavy over creek; exposed roots.
290	6316	Van Horne	*Sambucus mexicana*	Elderberry	12	8	4					2	Poor	Multiple attachments at base; crown heavy over creek; broken branch.
291	-	Ward	*Juglans californica var. hindsii*	Northern California black walnut	9							3	Moderate	Lost central leader but branch is new leader; full crown; 10' from edge.
292	-	Ward	*Calocedrus decurrens*	California incense cedar	21							4	Good	9' from edge; good form; slightly thin canopy.
293	-	Ward	*Calocedrus decurrens*	California incense cedar	22							4	Good	8' from edge of deck; good form; slightly thin canopy.
294	-	Moos	*Quercus agrifolia*	Coast live oak	17							5	Good	Good tree.
295	6332	Moos	*Sambucus mexicana*	Elderberry	24							3	Poor	Edge; huge tree; decay; high, assymetric crown.
296	6334	Moos	*Prunus cerasifera*	Plum	11	6	5					1	Poor	Multiple attachments at base; poor form; small.
297	6339	Moos	*Aesculus californica*	California buckeye	4							3	Moderate	Irregular form; leans parallel to bank; bark damage and wound at base.
298	6335	Moos	*Prunus cerasifera*	Plum	13	5	2	2	2	2		1	Poor	Largely dead.
299	6359	Moos	*Sambucus mexicana*	Elderberry	7							0	Poor	Dead.
300	6360	Moos	*Quercus agrifolia*	Coast live oak	15							4	Moderate	One-sided towards creek; top of bank; leaning away from #301; beautiful canopy.
301	6361	Moos	*Juglans californica var. hindsii*	Northern California black walnut	19							3	Moderate	Huge tree; thin canopy; large broken branches.
302	6363	Moos	*Aesculus californica*	California buckeye	5							4	Moderate	At base of #301; leans away from creek.
303	6362	Moos	*Quercus agrifolia*	Coast live oak	10	6	4					4	Moderate	Codominant trunks at base; one-sided over creek.
304	6364	Moos	*Quercus agrifolia*	Coast live oak	10							4	Moderate	Leans strongly over creek; healthy canopy; 8' from edge.
305	6365	Moos	*Quercus agrifolia*	Coast live oak	5							4	Moderate	Good upright form but suppressed by adjacent trees; trunk rubbing against #304.
306	6366	Moos	*Quercus agrifolia*	Coast live oak	7							3	Poor	2' from edge of bank; bowed over creek; one-sided crown; branch tip dieback.
307	6367	Moos	*Quercus agrifolia*	Coast live oak	6							3	Poor	Close to edge of bank; lost central leader; poor form.
308	6369	Moos	*Quercus agrifolia*	Coast live oak	9							3	Poor	Close to edge of bank; topped with sprouts from topping point.
309	6367	Moos	*Quercus agrifolia*	Coast live oak	4							4	Moderate	Suppressed; 2' from edge.
310	6354	Moos	*Quercus lobata*	Valley oak	22							4	Good	Edge; high, rounded crown; codominant trunks at 12' with good attachment.
311	6355	Moos	*Platycladus orientalis*	Oriental arborvitae	9	4	3	2				2	Poor	Edge; multiple attachments at base; suppressed; declining.
312	6341	Moos	*Juglans californica var. hindsii*	Northern California black walnut	5							3	Poor	Topped; poor form.
313	6376	Moos	*Chamaecyparis lawsoniana*	Port Orford cedar	12	4	4	4				2	Poor	Multiple attachments at 1'; very thin canopy.
314	6378	Moos	*Eucalyptus globulus*	Blue gum	16							3	Moderate	Codominant trunks at 10'; thin canopy.

Appendix A
Adobe Creek Reach 5, City of Los Altos and Town of Los Altos Hills

Tree No.	Survey No.	Property Owner	Scientific Name	Species	Trunk Diameter	dbh1	dbh2	dbh3	dbh4	dbh5	dbh6	Condition	Suitability for Preservation	Comments
315	6379	Moos	*Olea europaea*	Olive	9	5	4					4	Moderate	Codominant trunks at base; assymmetric crown; suppressed by #314.
316	6392	Moos	*Eucalyptus globulus 'Compacta'*	Dwarf blue gum	28	7	6	5	5	5		4	Moderate	Multiple attachments at base; shrub-like.
317	6409	Moos	*Quercus agrifolia*	Coast live oak	11							3	Moderate	Good crown; long wound on tension side; some included bark; leans sharply south.
318	6410	Moos	*Olea europaea*	Olive	15	5	4	2	2	2		3	Moderate	Multiple attachments at base; 4' from sackcrete wall; included bark.
319	6413	Moos	*Aesculus californica*	California buckeye	21	7	7	4	3			4	Good	Top of sackcrete; multiple attachments at base; crown heavy over creek.
320	6412	Moos	*Umbellularia californica*	California bay	7							4	Good	Narrow upright crown; 2' from sackcrete.
321	6383	Moos	*Populus nigra 'Italica'*	Lombardy poplar	7							4	Moderate	Root sprout of #322; tagged low on creek side.
322	6382	Moos	*Populus nigra 'Italica'*	Lombardy poplar	6							3	Poor	Sprout off of cut stump.
323	6238	Rogez	*Sequoia sempervirens*	Coast redwood	38							5	Good	Excellent tree.
324	6239	Rogez	*Sequoia sempervirens*	Coast redwood	42	26	16					4	Good	Codominant trunks at base; good form; thin canopy.
325	6234	Rogez	*Sequoia sempervirens*	Coast redwood	53							4	Good	Grove; huge tree; codominant trunks at 8'; upright; upper canopy thin; wall 6' from trunk.
326	6233	Rogez	*Sequoia sempervirens*	Coast redwood	32							4	Good	Grove; upper crown thin; new wall 6' from trunk.
327	6232	Rogez	*Sequoia sempervirens*	Coast redwood	26							5	Good	Grove; intermediate.
328	6230	Rogez	*Sequoia sempervirens*	Coast redwood	21							5	Good	Grove; codominant trunks at 4'; cut-off at 10'.
329	6231	Rogez	*Sequoia sempervirens*	Coast redwood	26	16	10					1	Poor	Grove; intermediate; hammock tree.
330	6229	Rogez	*Sequoia sempervirens*	Coast redwood	48							4	Good	Grove; huge tree; thin upper canopy; not tagged.
331	6228	Rogez	*Sequoia sempervirens*	Coast redwood	32							5	Good	Grove; good tree; trunk wound.
332	6235	Rogez	*Sequoia sempervirens*	Coast redwood	19							3	Poor	Grove; topped at 10' with small sprouts; poor structure.
333	6423	Astiz	*Pinus radiata*	Monterey pine	12							4	Moderate	Good form; crown raised.
334	6422	Astiz	*Pinus radiata*	Monterey pine	13							4	Moderate	Narrow crown; pruned up; thin canopy.
335	6421	Astiz	*Pinus radiata*	Monterey pine	13							3	Moderate	Lost central leader; rounded form; some crown dieback.
336	6424	Astiz	*Acacia melanoxylon*	Blackwood acacia	7							5	Good	Healthy young tree.
337	6420	Astiz	*Pinus radiata*	Monterey pine	13							3	Poor	Lost central leader; poor form.
338	6419	Astiz	*Pinus radiata*	Monterey pine	17							3	Poor	Codominant trunks at 6,7, and 15'; poor form.
339	6418	Astiz	*Pinus radiata*	Monterey pine	13							4	Moderate	Lost central leader; flat topped.
340	6417	Astiz	*Pinus radiata*	Monterey pine	13							4	Moderate	Narrow form; crown raised.
341	6425	Astiz	*Juglans regia*	English walnut	19	10	9					3	Poor	Large basal wound; decay in scaffold branches.
342	6416	Astiz	*Pinus radiata*	Monterey pine	14							3	Moderate	Codominant trunks at 8'; crown raised.
343	6415	Astiz	*Pinus radiata*	Monterey pine	18							3	Poor	Codominant trunks at 5'; poor attachment.
344	6414	Astiz	*Pinus radiata*	Monterey pine	16							4	Moderate	One-sided.
345	6278	Moos	*Phoenix canariensis*	Canary Island date palm	36							5	Good	Small plant; healthy.
501	6073	Astiz	*Juglans californica var. hindsii*	Northern California black walnut	6.5							4	Moderate	Thin canopy; heading pruning cuts; dead codominant trunk
502	6074	Astiz	*Eucalyptus globulus*	Blue gum	47.5							4	Poor	Top broken off at 25' and splits into 4 leaders; poor structure.
503	6087	Astiz	*Acacia melanoxylon*	Blackwood acacia	13.6							3	Poor	Broken leader; branch is now leader; missing large strips of bark
504	6088	Astiz	*Acacia melanoxylon*	Blackwood acacia	16.4							3	Poor	Codominant leaders from base;included bark; broken branches; missing bark
505	6086	Astiz	*Sequoia sempervirens*	Coast redwood	21.3	9.1	12.2					4	Moderate	Codominant from base; full canopy; in grove with #506.
506	6086*	Astiz	*Sequoia sempervirens*	Coast redwood	27.3	6.4	6.2	10.2	4.5			4	Moderate	Multiple stems from base; poor structure; full canopy.
507	6093	Astiz	*Acacia melanoxylon*	Blackwood acacia	11.1	5.2	5.9					4	Moderate	Codominant leaders from just below ground; healthy foliage.
508	6102	Astiz	*Eucalyptus globulus*	Blue gum	44.2							4	Good	2' from wall edge; good form; large tree.
509	6096	Astiz	*Platycladus orientalis*	Oriental arborvitae	10.4							4	Moderate	Leaning toward road; one-sided canopy; shrub-like.
510	6097	Astiz	*Platycladus orientalis*	Oriental arborvitae	11.3							5	Good	Symmetric canopy; healthy vigorous foliage.
511	6109	Astiz	*Acacia melanoxylon*	Blackwood acacia	9.1	4.2	4.9					4	Moderate	Codominant from below ground; vigorous growth.
512	6110	Astiz	*Platycladus orientalis*	Oriental arborvitae	11							3	Moderate	Thin canopy; shaded by Blackwood acacias; brown foliage.
513	6108	Astiz	*Acacia melanoxylon*	Blackwood acacia	10.4	5.7	4.7					3	Moderate	Codominant leaders at 1'; full crown.
514	6103	Astiz	*Eucalyptus globulus*	Blue gum	34.8							2	Poor	Thin canopy; leaning heavily to west.
515	6104	Astiz	*Eucalyptus globulus*	Blue gum	23.5							0	Poor	Dead; snag leaning over creek; hollow.
516	6123	Astiz	*Acacia melanoxylon*	Blackwood acacia	9.5	4.6	4.9					3	Moderate	Codominant leaders at 2 inches; full crown.
517	-	Astiz	*Acacia melanoxylon*	Blackwood acacia	25.3	10.9	4.9	5	4.5			3	Poor	Multiple leaders from base; ivy climbing trunk.
518	6135	Astiz	*Acacia melanoxylon*	Blackwood acacia	13	10	3					3	Moderate	Codominant leaders from base; 1' away from wall; ivy climbing trunk.
519	-	Astiz	*Acacia melanoxylon*	Blackwood acacia	7.9							3	Moderate	Codominant leaders from base; 1' away from wall.
520	6131	Astiz	*Acacia melanoxylon*	Blackwood acacia	11.5							3	Moderate	Codominant leaders from base; 1' away from wall.
521	6128	Astiz	*Acacia melanoxylon*	Blackwood acacia	23.4	5.4	5.5	4	5.5	3		3	Poor	Multiple upright leaders from base; poor structure.
522	6124	Astiz	*Acacia melanoxylon*	Blackwood acacia	6.7							4	Good	Good form; single leader; healthy and young tree.
523	6178	Astiz	*Eucalyptus globulus*	Blue gum	45.6							1	Poor	Has been headed at 6', 3 thin sprouts present 40' tall; poor form.
524	6179	Astiz	*Eucalyptus globulus*	Blue gum	27.1							1	Poor	Has been headed at 6', several thin sprouts present; poor form.
525	6198	Astiz	*Eucalyptus globulus*	Blue gum	35.6							4	Good	Good central leader; slightly thin canopy.
526	6197	Rogez	*Eucalyptus globulus*	Blue gum	16.2							2	Poor	Leaning heavily to south over road; assymetric crown.

Appendix A
Adobe Creek Reach 5, City of Los Altos and Town of Los Altos Hills

Tree No.	Survey No.	Property Owner	Scientific Name	Species	Trunk Diameter	dbh1	dbh2	dbh3	dbh4	dbh5	dbh6	Condition	Suitability for Preservation	Comments
527	6196	Rogez	*Eucalyptus globulus*	Blue gum	35.7							4	Good	Good central leader; slightly assymetric crown.
528	6195	Rogez	*Eucalyptus globulus*	Blue gum	27.8							3	Moderate	Assymetric crown.
529	6180	Rogez	*Eucalyptus globulus*	Blue gum	14	3.2	7.5	3.3				1	Poor	Large stump cut at 2.5'; 3 thin sprouts present.
530	6192	Rogez	*Eucalyptus globulus*	Blue gum	21.3	6.3	3.3	3.5	8.2			1	Poor	Large stump cut at 1.5'; 3 thin sprouts present.
531	6191	Rogez	*Eucalyptus globulus*	Blue gum	13.4	5	4	4.4				1	Poor	Large stump cut at 1'; 3 thin sprouts present; thin canopy; dead branches
532	6190	Rogez	*Eucalyptus globulus*	Blue gum	29.4							3	Moderate	Codominant leaders at 15'; assymetric crown.
533	6189	Rogez	*Eucalyptus globulus*	Blue gum	15.5							3	Moderate	Codominant leaders at 15'; assymetric crown; wound from embedded wire.
534	6184	Rogez	*Eucalyptus globulus*	Blue gum	39.9							3	Moderate	Codominant leaders at 15'; full canopy.
535	6183	Rogez	*Juglans californica var. hindsii*	Northern California black walnut	13.7							4	Moderate	Leader ends at 10' and five equal sized branches begin; some dieback in crown.
536	6240	Rogez	*Umbellularia californica*	California bay	16.8	7.5	3.3	6				3	Moderate	Multiple trunks from base; assymetric crown; dieback on small branches;
537	6242	Rogez	*Aesculus californica*	California buckeye	6.9							4	Good	Healthy; slightly assymetric crown; leaning slightly.
538	6243	Rogez	*Quercus agrifolia*	Coast live oak	7.4							3	Moderate	Very thin canopy; assymetric crown; branch dieback
539	-	Rogez	*Umbellularia californica*	California bay	20.3	9.7	10.6					3	Moderate	Very thin canopy; branch dieback; suppressed
540	6247	Rogez	*Ligustrum lucidum*	Glossy privet	19.6	9.3	10.3					3	Moderate	Codominant from 4'; included bark present; suppressed by palm
541	6244	Rogez	*Ligustrum lucidum*	Glossy privet	8.6							2	Poor	Large broken branch; very thin crown; poor form; suppressed.
542	6245	Rogez	*Eucalyptus globulus*	Blue gum	14.8							4	Moderate	Large central leader; thin canopy due to shading.
543	6246	Rogez	*Quercus agrifolia*	Coast live oak	9.2							3	Moderate	Suppressed; assymetric crown; dieback on large branch.
544	6248	Rogez	*Phoenix canariensis*	Canary Island date palm	31.8							5	Good	Healthy, excellent tree; full canopy.
545	6250	Rogez	*Eucalyptus globulus*	Blue gum	27.7							1	Poor	Stump cut at 15'; decay present; 4 thin sprouts from cut.
546	6251	Rogez	*Eucalyptus globulus*	Blue gum	22.4							2	Poor	Headed at 15' with 3 sprouts; leaning slightly.
547	6252	Rogez	*Eucalyptus sideroxylon*	Red ironbark	10.5							2	Poor	Severe lean towards house; very thin canopy.
548	6253	Rogez	*Ligustrum lucidum*	Glossy privet	8.2							3	Moderate	Codominant leaders at 6'; crown fairly full; some branch dieback.
549	6254	Rogez	*Eucalyptus sideroxylon*	Red ironbark	10.1							2	Poor	Severe lean; branch tip dieback; poor form.
550	6255	Rogez	*Sambucus mexicana*	Elderberry	14.5	5.6	4	4.9				2	Poor	Severe lean; suppressed; very thin canopy.
551	6257	Rogez	*Eucalyptus globulus*	Blue gum	14.7	6.5	8.2					3	Moderate	Multiple leaders; thin crown.
552	6259	Moos	*Eucalyptus globulus*	Blue gum	31.9	9.6	10.1	12.2				3	Moderate	Multiple leaders; thin crown.
553	6283	Moos	*Ligustrum lucidum*	Glossy privet	10.1							3	Moderate	Thin crown; some branch dieback; crossing branches.
554	6284	Moos	*Quercus agrifolia*	Coast live oak	10.9							4	Good	Slightly assymetric canopy; healthyleaves; strong single leader.
555	6281	Moos	*Ligustrum lucidum*	Glossy privet	7.8							3	Moderate	Thin canopy; suppressed.
556	6280	Moos	*Ligustrum lucidum*	Glossy privet	15.4	3.8	4	2.8	4.8			2	Poor	Dieback present; multitrunked from base.
557	6279	Moos	*Ligustrum lucidum*	Glossy privet	10.6	5.3	5.3					2	Poor	Included bark present; multitrunked from base.
558	6285	Moos	*Quercus agrifolia*	Coast live oak	11.5							3	Moderate	Assymetric crown; damage to trunk where fence wrapps around it; leaning.
559	6277	Moos	*Eucalyptus globulus*	Blue gum	55.3							4	Good	Good form; healthy; too close to adjacent palm tree.
560	6440	Astiz	*Euonymus japonica*	Evergreen euonymous	22.3	5.5	6	4.8	2.6	3.4		4	Moderate	Some dead leaves on south side ; overall moderate health and structure.
561	6441	Astiz	*Calocedrus decurrens*	California incense cedar	13.8							5	Good	Healthy young tree; good structure.
562	6442	Astiz	*Platycladus orientalis*	Oriental arborvitae	17.7	7.7	3	3	2	2		4	Good	Some dieback of leaves; overall healthy.
563	6443	Astiz	*Acacia melanoxylon*	Blackwood acacia	6.9							4	Good	Thin canopy below; overall healthy; too close to #564.
564	6444	Astiz	*Calocedrus decurrens*	California incense cedar	15.4							4	Good	Limbs shed on north side; good straight bole and healthy canopy; crown assymetric.
565	6445	Astiz	*Platycladus orientalis*	Oriental arborvitae	22.1	4.9	4.1	3.2	3.4	3.5	3	4	Good	Some dieback of leaves; overall healthy; crowded .
566	6446	Astiz	*Platycladus orientalis*	Oriental arborvitae	23.3	6.4	7.4	4.5	5			4	Good	healthy; some brown leaves.
567	6447	Astiz	*Platycladus orientalis*	Oriental arborvitae	19.2	8.9	6.6	3.7				4	Good	healthy; some brown leaves.
568	6448	Astiz	*Platycladus orientalis*	Oriental arborvitae	23.2	5.8	4.9	6.5	6			4	Good	healthy; some brown leaves.
569	6449	Astiz	*Calocedrus decurrens*	California incense cedar	11							3	Moderate	Assymetric crown; thin crown.
570	6450	Astiz	*Calocedrus decurrens*	California incense cedar	17.7							3	Moderate	Thin crown; some branch dieback.
571	6451	Astiz	*Platycladus orientalis*	Oriental arborvitae	15	3	3	2	3	2	2	3	Moderate	brown leaves; branch dieback.
572	-	Astiz	*Acacia melanoxylon*	Blackwood acacia	6.4							5	Good	healthy, young tree.
573	6452	Astiz	*Calocedrus decurrens*	California incense cedar	19.7							3	Moderate	Thin crown; some branch dieback.
574	6454	Astiz	*Calocedrus decurrens*	California incense cedar	18.8							3	Moderate	Thin crown; some branch dieback.
575	6456	Astiz	*Quercus agrifolia*	Coast live oak	23.1	6.4	13	3.7				4	Good	Slightly assymetric crown; slight lean; healthy leaves and bark.
576	6457	Astiz	*Platycladus orientalis*	Oriental arborvitae	9.4	5.4	4					3	Moderate	Sheared on east side; some brown leaves.
577	6458	Astiz	*Platycladus orientalis*	Oriental arborvitae	22.3	3.8	4	3.5	3	4.5	3.5	2	Poor	Very thin canopy; damage to bark.
578	6459*	Astiz	*Acacia melanoxylon*	Blackwood acacia	11.3	5.9	5.4					3	Poor	Multi-trunked from base.
579	6460	Astiz	*Acacia melanoxylon*	Blackwood acacia	14.6	7.2	7.4					3	Poor	Codominant upright leaders from 1', included bark developing.
580	6459*	Astiz	*Acacia melanoxylon*	Blackwood acacia	6							5	Good	Healthy, young.
581	6461	Astiz	*Platycladus orientalis*	Oriental arborvitae	14.2	3	3	3.5	2.5	2.2		3	Moderate	Thin canopy.
582	6462	Astiz	*Acacia dealbata*	Silver wattle	31.9	6.3	6.8	6.7	4.5	7.6		3	Moderate	Leaning, multitrunked from just below ground.
583	6463	Astiz	*Acacia melanoxylon*	Blackwood acacia	9							3	Poor	Codominant from base; included bark.

Appendix A
Adobe Creek Reach 5, City of Los Altos and Town of Los Altos Hills

Tree No.	Survey No.	Property Owner	Scientific Name	Species	Trunk Diameter	dbh1	dbh2	dbh3	dbh4	dbh5	dbh6	Condition	Suitability for Preservation	Comments
584	6206	Rogez	*Olea europaea*	Olive	26.5	13.8	12.7					3	Moderate	Codominant leaders; stump at ground level with many vigorous sprouts, full foliage.
585	6211	Rogez	*Photinia* sp.	Photinia	17.6	4.8	4.4	4.5	3.9			3	Moderate	Multi-trunked from base; full healthy foliage.
586	6469	Rogez	*Eucalyptus globulus*	Blue gum	38.3							2	Poor	3 large leaders from 1 ft.; included bark forming; poor structure.
587	6470	Rogez	*Calocedrus decurrens*	California incense cedar	15.9							2	Poor	Poor health; no foliage above 20' due to suppression by #586.
588	6411	Moos	*Prunus cerasifera*	Plum	15	2.5	3.5	3	2	2	2	2	Moderate	Multiple stems; crossing branches; no leaves present; poor form.
589	-	Moos	*Prunus cerasifera*	Plum	13.5	2.3	2	4	5.2			2	Moderate	Multiple stems; crossing branches; no leaves present; poor form.
590	6393	Moos	*Prunus cerasifera*	Plum	6.3							4	Good	Young tree; codominant leaders from base.
591	-	Moos	*Populus nigra 'Italica'*	Lombardy poplar	7.4							4	Moderate	Healthy young tree; invasive root system.
592	6326	Moos	*Quercus agrifolia*	Coast live oak	7.4							4	Good	Tall, narrow crown due to suppppression by #593.Leaning away from fence.
593	6513	Ward	*Umbellularia californica*	California bay	14	9	5					4	Good	Codominant from 1'; healthy crown.
594	-	Levis	*Sequoia sempervirens*	Coast redwood	35							4	Good	Thin canopy; top 15' of leader is dead.
595	-	Levis	*Sequoia sempervirens*	Coast redwood	22.1							3	Moderate	3 leaders; very thin foliage and canopy; ivy all the way up to split of leaders.
596	6146	Thies	*Sequoia sempervirens*	Coast redwood	15.5							4	Good	Healthy.
597	6147	Thies	*Sequoia sempervirens*	Coast redwood	19.5							5	Good	Healthy gorgeous full tree.
598	6148	Thies	*Sequoia sempervirens*	Coast redwood	21.5							3	Moderate	Broken off leader, little sprouts coming out of stump.
599	6149	Wittner	*Sequoia sempervirens*	Coast redwood	28.8							5	Good	Healthy gorgeous full tree.
600	6152	Wittner	*Sequoia sempervirens*	Coast redwood	30							4	Good	Canopy hangs to edge of creek; slightly irregular crown.
601	6154	Wittner	*Sequoia sempervirens*	Coast redwood	26.7							5	Good	Healthy gorgeous full tree.
602	6159	Seligman	*Sequoia sempervirens*	Coast redwood	37.8							5	Good	Healthy gorgeous full tree.
603	6168	Seligman	*Sequoia sempervirens*	Coast redwood	13.5							3	Moderate	Long wound from base to 5', top broken off.
604	-	Remmel	*Aesculus californica*	California buckeye	9.1	4.1	5					2	Poor	Poor form; coming out of bank slope; roots exposed; 2 main trunks.
605	6296	Remmel	*Juglans californica var. hindsii*	Northern California black walnut	18.5	4	4	4	3	3.5		2	Poor	Stump cut with 5 stems, all radiating from stump; poor from.
606	-	Robinwood Pool Inc.	*Aesculus californica*	California buckeye	11.5	4	4.5	3				3	Moderate	Covered in Cape Ivy; decent form.
607	-	Robinwood Pool Inc.	*Sambucus mexicana*	Elderberry	27.7	9.3	9	9.4				1	Poor	Multi-trunked; has been cut and resprouted.
608	-	Robinwood Pool Inc.	*Quercus agrifolia*	Coast live oak	19.9	8.9	5	6				1	Poor	Stump has been cut at 1.5'; resprouted.
609	-	Van Horne	*Aesculus californica*	California buckeye	11.1	8.1	3					4	Good	Leaning over creek; appears healthy; lots of fruit.
610	6322	Van Horne	*Sequoia sempervirens*	Coast redwood	12.8							5	Good	Healthy gorgeous full tree.
611	-	Van Horne	*Sambucus mexicana*	Elderberry	19.2	5	6.3	7.9				1	Poor	Multi-trunked; poor form; unhealthy.
612	6317	Van Horne	*Sambucus mexicana*	Elderberry	13.7	4.9	8.8					3	Moderate	Broken branches; full crown.
613	6527	Van Horne	*Quercus agrifolia*	Coast live oak	26.6							4	Good	Leaning over creek; large oak; full canopy.
614	6529	Van Horne	*Aesculus californica*	California buckeye	9.5	4.9	4.6					4	Good	Full canopy; some dieback.
615	6525	Van Horne	*Pinus radiata*	Monterey pine	32							4	Good	Tall and narrow; branches only at top; leaning over the creek.
616	6532	Van Horne	*Aesculus californica*	California buckeye	6.2							3	Good	Codominant leaders at 2'; very close to #615; leaning over creek;
617	6524	Van Horne	*Sequoia sempervirens*	Coast redwood	21.8							5	Good	Healthy full tree.
618	6523	Van Horne	*Sequoia sempervirens*	Coast redwood	20.1							4	Good	Healthy; near edge with some exposed roots.
619	6522	Van Horne	*Sequoia sempervirens*	Coast redwood	20.9							4	Good	Healthy; very sparsely branched.
620	-	Lemp/Millar	*Eucalyptus globulus*	Blue gum	6.9							1	Poor	Group of sprouts in middle of channel all smaller than 6"; poor form.
621	6151	Wittner	*Sequoia sempervirens*	Coast redwood	28							4	Good	Healthy, full tree with some lower branches broken.
622	6153	Wittner	*Sequoia sempervirens*	Coast redwood	21							4	Good	Healthy tree; branches on both sides, full foliage.
623	6157	Wittner	*Sequoia sempervirens*	Coast redwood	26.5							5	Good	Healthy full crown.
624	6166	Seligman	*Sequoia sempervirens*	Coast redwood	18							4	Good	Assymetric branches all on one side; appears healthy.
625	6167	Seligman	*Sequoia sempervirens*	Coast redwood	26							4	Good	Flat topped, full canopy; healthy.
626	6169	Seligman	*Sequoia sempervirens*	Coast redwood	12							4	Good	Slightly suppressed by oak branch; healthy leaves, assymetric canopy.
627	-	Rogez	*Sambucus mexicana*	Elderberry	12, 9							1	Poor	Leaning horizontally over creek; very few leaves; covered in ornamental vine.
628	-	Los Altos Hills	*Quercus lobata*	Valley oak	13							5	Good	Codominant at 7' with strong attachment. Young healthy tree.

APPENDIX B
Los Altos Hills Title 12 Chapter 2 Trees, Shrubs, and Plants

Los Altos Hills Municipal Code

TITLE 12. PARKS AND RECREATION

CHAPTER 2. TREES, SHRUBS AND PLANTS*

Article 1. Definitions**

Sec. 12-2.112. Heritage Oak.

"Heritage Oak" shall mean any tree of the genus quercus, including, but not limited to, Valley Oak (quercus lobata), California Live Oak (quercus agrifolia), Black Oak (quercus kelloggii) and Blue Oak (quercus douglasii) that has a trunk or multiple trunk thirty-six (36) inches in circumference (approximately twelve (12") inches in diameter) at a point four (4') feet above the root crown.
(§ 2 (part), Ord. 332, eff. June 1, 1990)

Sec. 12-2.113. Heritage Tree.

"Heritage Tree" shall mean any tree that, due to age, size, location, visibility, historic nature, or other unique attribute, has been deemed by the Town to be a heritage tree and accordingly deserves special consideration for preservation and protection.
(§ 2 (part), Ord. 332, eff. June 1, 1990)

Article 3. Heritage Oaks

Sec. 12-2.301. Purpose.

The oak trees of Los Altos Hills are a valued community asset. The purpose of this article is to establish policies and procedures for their promotion and protection and to create community awareness of their intrinsic value.
(§ 3 (part), Ord. 332, eff. June 1, 1990)

Sec. 12-2.302. Permit required to remove or destroy a Heritage Oak.

No person shall remove, purposefully damage, or purposefully cause to die any Heritage Oak on private or public property within the Town of Los Altos Hills without first having obtained a removal permit from the Town. A removal permit is not required when:
(a) The Heritage Oak has been identified for removal on an approved tentative subdivision map or an approved site development permit; or (b) The City Manager (or designee) has determined that the Heritage Oak presents an immediate danger to persons or property. Persons believing a Heritage Oak presents an immediate danger should call Town Hall during normal business hours and 911 at all other times.
(§ 3 (part), Ord. 332, eff. June 1, 1990)

Sec. 12-2.303. Application for removal permit.

Application for a Heritage Oak removal permit may be made by the owner or authorized representative by telephone or in writing to the City Manager or designee, and shall contain the number, size, and location of the Heritage Oak(s) requested to be removed, and a brief explanation of the reasons for the requested removal. Such reasons may include, but not be limited to, the fact that the Heritage Oak is dead, diseased beyond reclamation, hazardous, or crowded and that good horticultural practices dictate its removal. If there is a disagreement regarding the condition of the Heritage Oak between the applicant and the Town, an arborist's opinion must be obtained at the expense of the applicant.
The City Council shall fix the amount of the removal permit fee by Resolution.
(§ 3 (part), Ord. 332, eff. June 1, 1990)

Sec. 12-2.304. Notice to neighbors and issuance of permit.

The Town shall mail written notice of the removal permit application to owners of all abutting property, except when the reason for the application is that the Heritage Oak is dead, diseased beyond reclamation, hazardous, or crowded such that good horticultural practices dictate its removal. If there is no protest against removing the Heritage Oak within ten (10) days of the date of the mailing, the City Manager (or designee) may issue the removal permit pursuant to Section 12-3.305. If there is a protest received within ten (10) days of the date of the mailing, the matter shall be heard by the Site Development Committee after notice of a hearing is given at least ten (10) days in advance to the applicant and the protestant. For the purposes of this section, an 'abutting property" is a property whose property line touches the property of the applicant for the removal permit.
(§ 3 (part). Ord. 332, eff. June 1, 1990)

Sec. 12-2.305. Removal criteria.

A removal permit may be approved when the Town has determined that at least one of the following conditions is satisfied:
(a) The Heritage Oak is dead, diseased beyond reclamation, hazardous, or crowded and that good horticultural practices dictate its removal.
(b) The Heritage Oak is interfering with existing utilities, structures, improved surfaces, or rights-of-way to the extent that the pruning or other measures will not correct the problem.
(c) Special conditions exist which indicate that removal of the Heritage Oak is otherwise of net benefit to the Town and its residents.
(§ 3 (part), Ord. 332, eff. June 1, 1990)

Sec. 12-2.306. Removal conditions.

The City Manager (or designee) or the Site Development Committee, whichever is applicable, may attach reasonable conditions to the approval of a removal permit, including, but not limited to, the requirement that up to five (5) trees be planted for each one removed.
(§ 3 (part), Ord. 332, eff. June 1, 1990)

Sec. 12-2.307. Appeal by applicant.

An applicant may appeal the decision of the City Manager (or designee) to the City Council. The applicant or protestant may appeal the decision of the Site Development Committee to the City Council. The appeal shall be conducted in accordance with Section 10-1.1109 of the Los Altos Hills Municipal Code.
(§ 3 (part), Ord. 332, eff. June 1, 1990)

Article 4. Heritage Trees

Sec. 12-2.401. Designation of Heritage Trees.

Upon recommendation of the Environmental Design and Protection Committee and following a noticed public hearing, the City Council, by resolution, may designate a tree as a Heritage Tree. At the hearing, the Council shall consider a Plan of Protection for the tree, and may require a report prepared by an arborist and paid for by the Town. If the owner of the property where the proposed Heritage Tree is located protests the designation of Heritage Tree, the City Council may override this protest only with a vote of four-fifths (4/5) of the Council members. If the tree is designated as a Heritage Tree, the Council shall adopt a Plan of Protection.
(§ 4 (part), Ord. 332, eff. June 1, 1990)

Sec. 12-2.402. Maintenance of Heritage Trees.

It shall be the responsibility of the owner of a Heritage Tree to comply with the terms of the adopted Plan of Protection. The owner may seek modification of the Plan and the Council will review the Plan at least every ten (10) years. If the owner demonstrates to the City Council's satisfaction that the owner is financially unable to comply with the Plan of Protection, the Town may provide the funds necessary to perform the work.
(§ 4 (part), Ord. 332, eff. June 1, 1990)

Sec. 12-2.403. Heritage Tree removal.

No person shall remove, purposefully damage, or purposefully cause to die a Heritage Tree except with the approval of the City Council following a noticed public hearing.
(§ 4 (part), Ord. 332. eff. June 1, 1990)

Sec. 12-2.404. Heritage Tree protection on Town Lands.

The Town shall establish a special fund to maintain and protect Heritage Trees on Town lands. With the approval of the City Council, a resident may adopt and dedicate a Heritage Tree located on Town property upon making a donation to the special fund sufficient to provide for the Heritage Tree's protection and maintenance.
(§ 4 (part), Ord. 332, eff. June 1, 1990)

Sec. 12-2.405. Records.

The Town Historian shall maintain records and pictures of all Heritage Trees.
(§ 4 (part), Ord. 332. eff. June 1, 1990)

Article 5. Protection of Trees in Anticipation of and During the Development Process

Sec. 12-2.501. Removal of trees in anticipation of development.

(a) An owner, or the owner's representative or agent, shall not remove, purposefully damage, or purposefully cause to die any tree on the owner's property with the intent to avoid the requirements of tree preservation or protection that may be imposed upon the subdivision or further development of the owner's property.
(b) If the City Council finds, after a noticed public hearing, that subsection (a) has been violated, it may impose reasonable conditions upon the subdivision or further development of that property. Such conditions may include, but not be limited to, replacement of each tree removed or damaged by five (5) forty-eight (48") inch box trees at locations approved by the Town and payment of a multi-year bond to ensure these trees are maintained and cared for.
(§ 5 (part), Ord. 332, eff. June 1, 1990)

Sec. 12-2.502. Removal of Trees during the development process.

(a) The Zoning Administrator, the Site Development Committee, the Subdivision Committee, the Planning Commission, and the City Council. in reviewing development proposals or subdivisions, shall seek to preserve and protect existing trees, especially Heritage Oaks and Heritage Trees, from unnecessary removal or damage by placing conditions on development approvals. Subdivision lot design and development plans shall accommodate existing trees whenever possible. The reviewing authority may require the developer to provide recommendations by an arborist as to the steps that should be taken to protect and preserve existing trees.
(b) If the City Council finds, after a noticed public hearing, that the conditions of development approval regarding removal or damage of trees has been violated, it may direct a stop work order to be issued. A stop work order may halt processing of an application as well as any on site work. The stop work order may remain in effect: (I) a plan of restitution has been approved by the City Council; and (2) the plan has been implemented or a bond has been posted to ensure compliance with the requirements of the plan of restitution.

(c) The plan of restitution may include, but not be limited to, the replacement of each tree damaged or removed by up to five (5) trees of reasonable size and the payment of a multi-year bond to ensure the trees are maintained and cared for.
(§ 5 (part), Ord. 332, eff. June 1, 1990)

Sec. 12-2.503. Conservation Easement Restrictions Take precedence.

Nothing in this article supersedes Town restrictions relating to conservation easements. (§ 5 (part). Ord. 332, eff. June 1, 1990)

APPENDIX C
Santa Clara County Division C16 Tree Preservation and Removal

Division C16
TREE PRESERVATION AND REMOVAL

Sec. C16-1. Intent.

The Board of Supervisors finds that it is necessary to enact this ordinance to promote the public health, safety, general welfare and prosperity of the County, while recognizing and respecting individual rights to develop, maintain and enjoy private property to the fullest possible extent, consistent with the public interest, convenience and necessity. The County recognizes the substantial economic, environmental and aesthetic importance of its tree population. The County finds that the preservation of all trees in private and public property is necessary for the best interests of the County and its citizens in order to:

(a) Establish and maintain the optimum amount of tree cover on public and private lands in the County;

(b) Protect property values;

(c) Preserve and protect aesthetic and scenic beauty;

(d) Prevent erosion of topsoil add protect against flood hazards and the risk of landslides;

(e) Counteract the pollutants in the air;

(f) Protect against high winds;

(g) Maintain the climatic balance and provide shade;

(h) Provide habitat to a variety of wildlife species; and

(i) Protect valuable historical and community assets.

The Board of Supervisors further finds that it is necessary and desirable to protect and preserve those trees, which because of their history, girth, height, species, or other unique quality, have a special significance to the community. As a result, heritage trees shall be given additional protections under this chapter, as provided in Section C16-13 and Section C16-17(c).

(Ord. No. NS-1203.107, § 1, 2-11-97)

Sec. C16-2. Definitions.

When used in this division, the following terms shall have the following meanings:

Commercial tree species shall mean any tree species defined as "commercial species" by the California Forest Practice Rules, which include but are not limited to Coast Redwood, Douglas

Fir, Monterey Pine, Jeffrey Pine, and Ponderosa Pine (Group A). Commercial tree species shall also include Tanoak, Eucalyptus, California Black Oak and Pacific Madrone (Group B) when such trees are found on lands where the species in Group A are now growing naturally or have grown naturally in the recorded past.

Encroachment permit provides authorization to remove, cut or alter any tree growing within or upon any County road right-of-way.

Hardwood shall mean trees that are angiosperms, usually broad leaved, which include but are not limited to Oak, Maple, Madrone, Blue Gum and Bay.

Heritage tree shall include any tree which, because of its history, girth, height, species, or other unique quality, has been recommended for inclusion on the heritage resource inventory by the Historical Heritage Commission and found by the Board of Supervisors to have special significance to the community, and which has therefore been included in the heritage resource inventory adopted by resolution of the Board of Supervisors.

Notice shall refer to notice in writing, sent by first class mail.

Person shall mean an individual, firm, association, corporation, and their employees, agents and representatives, or a public agency, including the County and its departments.

Private property shall mean all property not owned by the County of Santa Clara or any other public agency.

Prune shall mean to trim or cut away any limbs or branches of a tree which will not adversely impair the health of the tree.

Public property shall mean all property owned or leased by the County of Santa Clara, any other city, county, special district or other public agency in the unincorporated area of Santa Clara County.

Remove and removal shall include cutting down, burning, poisoning, or otherwise diminishing the vigor of or destroying a tree, as well as adversely pruning or topping a tree.

Tree means any woody plant rising above the ground with a trunk which has a circumference of 37.7 inches or more (12 inches or more in diameter) measured at 4.5 feet above the ground or immediately below the lowest branch, whichever is lower, or in the case of multi-trunk trees a trunk size of 75.4 inches in circumference or more (24 inches or more in diameter).

(Ord. No. NS-1203.107, § 1, 2-11-97; Ord. No. NS-1200.302, § 4, 12-18-01)

Sec. C16-3. Administrative permit/encroachment for Tree removal required.

Except as otherwise provided below in Section C16-4 of this division, it shall be unlawful for any person to remove any protected tree on any private or public property in designated areas of the County without having first obtained an administrative permit [(a) through (e) below] from the County Planning Office or an encroachment permit [(f) below] from the Department of Roads and Airports. Requirements for obtaining a use permit or special permit are outlined in Section C16-5 and Section C16-6 below.

A protected tree shall consist of any of the following:

(a) Any tree having a main trunk or stem measuring 37.7 inches or greater in circumference (12 inches or more in diameter) at a height of 4 1/2 feet above ground level, or in the case of multi-trunk trees a total of 75.4 inches in circumference (24 inches or more of the diameter) of all trunks in the following areas of the County:

(1) Parcels zoned "Hillsides" (three acres or less);

(2) Parcels within a "-d" (Design Review) combining zoning district;

(3) Parcels within the Los Gatos Hillside Specific Plan Area.

(b) Any tree within the "-h1" Historic Preservation zoning district for New Almaden having a main trunk or stem measuring six inches or more in diameter (18.8 inches or greater in circumference) at a height of 4.5 feet above ground level, or in the case of multi-trunk trees, a total of 12 inches in diameter (37.7 inches in circumference) of all trunks at 4.5 feet above ground. For parcels having a base zoning district of "HS, Hillside" within the "-h1" combining zoning district, this provision supersedes C16-3(a)(1).

(c) Any heritage tree, as that term is defined in Section C16-2.

(d) Any tree required to be planted as a replacement for an unlawfully removed tree, pursuant to Section C16-17(e) of this division.

(e) Any tree that was required to be planted or retained by the conditions of approval for any use permit, building site approval, grading permit, architectural and site approval (ASA), design review, special permit or subdivision.

(f) On any property owned or leased by the County, any tree which measures over 37.7 inches in circumference (12 inches or more in diameter) measured 4.5 feet above the ground, or which exceeds 20 feet in height.

(g) Any tree, regardless of size, within road rights-of-way and easements of the County, whether within or without the unincorporated territory of the County.

(Ord. No. NS-1203.107, § 1, 2-11-97; Ord. No. NS-1200.302, § 5, 12-18-01)

Sec. C16-4. Exceptions.

Except in the case of heritage trees, no permit shall be required from the Planning Office for the cutting, removal, destruction, or pruning of a tree in the following circumstances:

(a) The tree is (1) irreversibly diseased, is dead, or is dying (a determination by a licensed arborist, tree surgeon, or forester may be required to verify that a tree is diseased or dying); or (2) the tree is substantially damaged from natural causes. A tree shall be found to be substantially damaged when one-third or more of the tree has been destroyed or must be removed.

(b) Tree cutting to remove a hazard to life and personal property as determined by the Planning Director, or his or her designee. In the case of an emergency or dangerous condition of a tree requiring immediate action for the safety of life or property, such necessary action may be taken to remove the tree or otherwise reduce or eliminate the hazard without complying with the other provisions of this part, except that the person responsible for the cutting or removal of the trees shall report such action to the Planning Director or his or her designee within five working days thereafter.

It shall be the responsibility of the property owner or other person responsible for removing the tree to demonstrate that any tree removed without a permit was irreversibly diseased, substantially damaged, or presented an imminent danger to human life or safety or to property. Credible evidence shall include, but shall not be limited to, a photograph, video, or written opinion of an arborist, forester, or other expert qualified to render such an opinion. Such reports are to be obtained at the expense of the applicant. If possible, request verbal permission from the Planning Director or his or her designee before taking any action. Note: In the case of a road right-of-way, refer to the Road Commissioner or his or her designee.

(c) Trees planted, grown and/or held for sale by licensed nurseries and/or tree farms or the removal or transplanting of such trees pursuant to the operation of a licensed nursery and/or tree farm.

(d) Trees in the active production of agriculture or orchard production, where there is no active plan to convert the property to another use.

(e) Tree removal necessary to carry out building site approval or other land use application approved by the County. However, no removal shall be permitted until such grading or building permit has been issued by the County as indicated on approved plans. The number of trees cut may not exceed the minimum number necessary to carry out the permitted action.

(f) Maintenance work within public utility easements.

(g) Trees removed or pruned as part of maintenance of County parks under established policies and procedures of the Parks and Recreation Department.

(h) Trees removed or pruned as part of maintenance of County right-of-way under established policies and procedures of the Department of Roads and Airports.

(i) Trees removed on properties with a comprehensive vegetative management program approved by the County.

(Ord. No. NS-1203.107, § 1, 2-11-97)

Sec. C16-5. Tree removal in the Agricultural Ranchlands (AR) zoning district.

(a) Matter of right. Hardwood tree cutting for firewood, including for sale provided that:

(1) The following cord limitations apply:

a. No more than ten cords per year shall be cut on parcels 100 acres or less.

b. No more than 25 cords per year shall be cut on parcels between 100 acres and 300 acres.

c. No more than 50 cords per year shall be cut on parcels between 300 acres and 600 acres.

d. No more than 100 cords per year shall be cut on parcels over 600 acres.

(2) No more than ten percent of the trees on a parcel shall be clear cut in any one year.

(3) No more than ten percent of the trees over 37.7 inches in circumference may be cut in any one year on any parcel.

(b) Special permit. Hardwood tree cutting for firewood, including for sale; when the requirements of Section C16-4(a)(1) are exceeded the following cord limitations shall apply:

(1) No more than 20 cords per year may be cut on any parcel of 100 acres or less.

(2) No more than 50 cords per year may be cut on any parcel between 100 and 300 acres.

(3) No more than 100 cords per year may be cut on any parcel between 300 and 600 acres.

(4) No more than 200 cords per year may be cut on any parcel over 600 acres.

A written statement shall be provided indicating the location of the operation and describing the operation and, if necessary, mitigation measures to control excessive erosion.

Specific findings:

(1) Adequate erosion control measures are provided.

(2) Only chain saws, pickups, small trucks (2T) and splitters shall be used.

(c) Use permit. Hardwood tree cutting for firewood, including for sale, when the following cord limitations are exceeded:

(1) Over 20 cords per year on any parcel of 100 acres or less.

(2) Over 50 cords per year on any parcel between 100 and 300 acres.

(3) Over 100 cords per year on any parcel between 300 and 600 acres.

(4) Over 200 cords per year on any parcel over 600 acres.

A harvesting program shall be provided, including necessary maps and a description of the operation and, if necessary, mitigation measures to control excessive erosion.

(Ord. No. NS-1203.107, § 1, 2-11-97)

Sec. C16-6. Tree removal in the Hillsides (HS) zoning district.

(a) Matter of right. Except for parcels within the "-h1, New Almaden Historic Preservation zoning district," the following provisions shall apply: Parcels greater than three acres: Tree removal provided the yield is not more than ten percent of trees over 37.7 inches circumference (12 inches or more in diameter) measured 4.5 feet above the ground per year on any parcel, together with contiguous parcels under the same ownership. No more than ten cords of wood per year shall be cut on parcels of 100 acres or less, and no more than 25 cords per year shall be cut on parcels larger than 100 acres.

Note: Cutting of "commercial" tree species (as defined in Section C16-2) may require a permit from the California Department of Forestry and Fire Protection (CDF). Prior to cutting, it shall be the property owner's responsibility to obtain any necessary permit(s) or notice of exemption from CDF.

(b) Use permit. Removal of more than ten percent of trees over 37.7 inches circumference (12 inches or more in diameter) measured 4.5 feet above the ground per year on any parcel, together with contiguous parcels under the same ownership; cutting of trees for wood in an amount more than ten cords per year on any parcel of 100 acres or less or more than 25 cords per year on any parcel larger than 100 acres. In no case shall yield exceed 100 cords of wood per year on any parcel and contiguous parcels under the same ownership.

Specific findings:

(1) The use shall not create noise, water pollution or traffic congestion adversely affecting the neighborhood.

(2) The applicant has submitted a plan showing that good harvesting practices will be used.

(3) The applicant has obtained any necessary permit(s) or notice of exemption from the California Department of Forestry and Fire Protection for such cutting.

(c) Commercial timber harvest plans. Tree cutting as part of commercial timber harvest plans shall be conducted in accordance with the state forest practice rules, as administered by the California Department of Forestry and Fire Protection.

(Ord. No. NS-1203.107, § 1, 2-11-97; Ord. No. NS-1200.302, § 6, 12-18-01)

Sec. C16-7. Permit applications.

Any person desiring to remove any tree regulated herein shall file an application with the County Planning Office for an administrative permit not less than ten days prior to the date of such planned removal. In the case of heritage trees, such application must be made not less than 90 days prior to the date of the planned removal, following the hearing procedures set forth in Section C16-12 and Section C16-13 below. Any application for a special permit or use permit for tree cutting shall be filed in accordance with procedures set forth in Section 44-3 and Section 47-5 of the County Zoning Ordinance. Removal of any tree, regardless of size, located within a County road right-of-way shall require an encroachment permit from the Department of Roads and Airports not less than 60 days prior to planned removal.

Any permit application to remove a tree having a main trunk or stem measuring 37.7 inches or greater in circumference (12 inches or more in diameter) at a height of 4.5 feet above ground level located within the Los Gatos Hillside Specific Plan, as indicated in Section 45-10(c) of County Zoning Ordinance, shall be reviewed by both the Town of Los Gatos and the County.

In addition to standard information required as part of all applications for administrative permits, special permits, use permits or encroachment permits, the following information shall be included in such applications for tree removal:

(a) A brief statement of the reasons for removal of the tree.

(b) A photograph of the tree(s) proposed for removal.

(c) A description of the method to be used in the removal of the tree(s). Applicant should demonstrate that good harvesting practices will be used.

(d) A tree survey (map) with the accurate location, number, species, size (diameter measured 4.5 feet above ground, approximate height, and approximate canopy diameter), general health, and approximate age, if known, of the tree or trees in question.

(e) A replanting and/or revegetation plan for all trees to be removed. Replacement trees shall be of a like kind and species of tree removed, if native and feasible, or of a kind and species to be determined by the Planning Department. The location of the replacement tree(s) need not be in the same location of the tree removed. Replacement tree planting shall utilize at least five-gallon size stock. The ratio of trees removed to trees planted shall be determined by the Planning Department. An erosion control plan may also be required where deemed appropriate by County staff.

(f) Any other pertinent information, such as property lines, names of the streets fronting the property and edge of the County road right-of-way.

(Ord. No. NS-1203.107, § 1, 2-11-97)

Sec. C16-8. Fees.

The application for a special permit or use permit for tree removal shall be accompanied by a fee, as set by ordinance by the Board of Supervisors. No fee shall be assessed for an administrative permit for tree removal. No amendment of this section to provide for a fee for an administrative permit for tree removal may be approved without the consideration of the Board of Supervisors of all provisions of this Division C16 of the County Ordinance Code.

(Ord. No. NS-1203.107, § 1, 2-11-97)

Sec. C16-9. Display of permit/notice to Neighbors.

For all unincorporated parcels, the approved tree removal permit shall be posted on the site a minimum of seven calendar days prior to actual tree removal operations and shall be available to any person for inspection. The issued permit shall be posted in a conspicuous place at eye level at a point near the closest street or roadway. It shall be the property owners responsibility to see that adjoining property owners also receive a copy of said tree removal permit a minimum of seven calendar days prior to actual tree removal operations. Removal of the subject tree(s) shall be allowed to take place at the end of the seven-day noticing period if no written objection to the issuance of the permit has been received by planning staff.

Noticing for a special permit or use permit shall take place in accordance with procedures set forth in Sections 44-3 and 47-5 of the Zoning Ordinance.

(Ord. No. NS-1203.107, § 1, 2-11-97)

Sec. C16-10. Appeals.

Any person who disagrees with an action of the Planning Office with respect to an application for a tree removal permit may appeal to the County Planning Commission. A written notice of appeal shall be filed with the Planning Office within seven days of such action. Upon the acceptance and filing of the notice of appeal, the Planning Director shall set a date of public hearing thereon by the Planning Commission. Such hearing shall take place no more than 30 days after the date of filing of the appeal, or the first meeting date of the Planning Commission thereafter, whichever comes later. The Planning Director shall give written notice of the hearing to the appellant (if not the applicant) and to the applicant. The Planning Commission shall hear all matters on appeal de novo and shall take action within a reasonable time after the conclusion of the hearing.

(Ord. No. NS-1203.107, § 1, 2-11-97)

Sec. C16-11. Criteria for permit approval.

The Planning Office or any other person or body charged with determining whether to grant, conditionally grant or deny an administrative permit, special permit, use permit, or encroachment permit for tree removal shall take into account the following factors in determining what action to take upon the permit application:

(a) The condition of the tree with respect to disease or damage, imminent danger to human life or safety,

imminent danger to property, proximity to existing or proposed structures, and interference with utility services where the problem cannot be corrected by pruning.

(b) The potential impact the removed tree or trees may have upon adjacent trees (i.e. increased windthrow). Where appropriate, removal may necessitate an assessment of potential impacts upon adjacent trees by a certified arborist or forester, along with the development of mitigations to lessen such impacts.

(c) The required action is necessary to allow reasonable economic or other enjoyment of the property.

(d) The topography of the land and the effect of the proposed tree removal upon erosion, soil retention, and the diversion or increased flow of sediment.

(e) The number, species, size, and location of existing trees in the area, and the effect the proposed removal would have upon shade, privacy impact, scenic beauty, and property values of the area.

(f) The historical significance of the tree to the community.

(g) The tree is a detrimental/undesirable species for park strip planting. Included are: Lombardy Poplar, palm tree (in a "non-palm" tree area), Silk Oak, Fruitless Mulberry, Siberian Elm, female Ginkgo, Liquidambar, Eucalyptus, fruit bearing and Monterey Pine.

(h) The tree has caused repeated sewer/sidewalk damage and created a sewer/sidewalk problem that cannot be resolved by any other means.

(i) Removal of the tree would benefit roadway usage, i.e. road widening, sidewalk installation, etc., as determined by Department of Roads and Airports staff.

(Ord. No. NS-1203.107, § 1, 2-11-97)

Sec. C16-12. Heritage trees.

Any tree which, because of its history, girth, height, species, or other unique quality, has been recommended by the Historical Heritage Commission (HHC) and found by the Board of Supervisors to have a special significance to the community shall be designated a heritage tree. Such trees shall be listed individually on the heritage resource inventory, adopted by resolution of the Board of Supervisors. Such resolution may be amended as necessary to add or delete trees from the inventory.

(a) Any person, including the property owner, as well as the Board of Supervisors and the HHC, may nominate a tree for inclusion on the heritage resource inventory.

(b) When a tree has been nominated for addition to the heritage resource inventory, a public hearing shall be held before the HHC. Notice of the hearing shall be sent to the owner of the property on which the tree is located at least ten days prior to the date of such hearing.

(c) The HHC shall conduct a hearing on the issue of placement of a tree on the heritage resource inventory. Any person may present evidence on the issue. The HHC shall make findings supporting its recommendation to the Board of Supervisors to include a tree or trees on the heritage resource inventory.

(d) The Board of Supervisors shall conduct a hearing on the recommendation of the HHC to place a tree or trees on the heritage resource inventory. Notice of hearing shall be sent to the owner of the parcel upon which the tree is located. Evidence may be presented by any person. Notice of action on the recommendation shall be given to the owner of the parcel on which the tree is located.

(Ord. No. NS-1203.107, § 1, 2-11-97; Ord. No. NS-1200.302, § 7, 12-18-01)

Sec. C16-13. Removal of heritage trees.

Where the tree in question has been designated as a heritage tree, all applications for a tree removal permit shall be forwarded to the County Historical Heritage Commission (HHC) by the Planning Office. A site visit may be conducted by representatives of the HHC and a written opinion from an arborist, forester, or other expert may be required to evaluate the status of the tree. Such reports shall be obtained at the expense of the applicant.

A public hearing shall be conducted, notice of which must be given by the HHC to the owner of the property on which the tree is located, as well as all other persons residing within 300 feet of the subject property, not less than seven days prior to the date of such hearing. Following the hearing, the Commission shall make a recommendation to the Board of Supervisors as to whether to grant, conditionally grant, or deny the application for tree removal permit. The Board of Supervisors shall then adopt or reject the recommendation of the Commission by resolution, unless the applicant elects to withdraw his or her application following the recommendation of the Historical Heritage Commission that such application be denied. The decision of the Board of Supervisors shall be forwarded to the Planning Office for issuance of the final permit. The determination of the Board of Supervisors shall be final.

(Ord. No. NS-1203.107, § 1, 2-11-97)

Sec. C16-14. Expiration of permit.

If work authorized by an approved tree removal permit has not commenced within one year from the date of approval of such permit, the permit shall be considered void.

(Ord. No. NS-1203.107, § 1, 2-11-97)

Sec. C16-15. Removal of debris.

Upon completion of tree removal, it shall be the property owner's responsibility to assure that surface fuels created by tree cutting operations which could promote the spread of wildfire, including logging slash and debris, deadwood, branches exceeding one inch in diameter, and brush, shall be chipped or removed within 14 days of completion of all work.

(Ord. No. NS-1203.107, § 1, 2-11-97)

Sec. C16-16. Liability disclaimer.

The County hereby disclaims liability for any personal injury or property damage caused by trees on private property. Nothing in this article shall be deemed to relieve the owner or occupant of any private property from the duty to keep in safe condition any tree upon his or her property.

(Ord. No. NS-1203.107, § 1, 2-11-97)

Sec. C16-17. Penalties and remedies.

Any violation of the provisions of this chapter is hereby declared to be unlawful and shall constitute a public nuisance and/or a misdemeanor, subject to the following civil and/or criminal penalties and remedies:

(a) Any person violating the provisions of this chapter shall incur a civil penalty in the amount of $5,000.00 per individual tree cut, destroyed, killed, removed, or adversely pruned. Such civil action shall be brought in the name of the County of Santa Clara by the office of County Counsel.

(b) In addition to any civil penalty, any person who engages in the removal or adverse pruning of a tree without a permit or failure to comply with the noticing requirements set forth in Section C16-9 is guilty of a misdemeanor, punishable by a fine not to exceed $1,000.00 and/or six months in the County jail, and for restitution. Such criminal action shall be brought in the name of the County of Santa Clara by the office of the District Attorney.

(c) Any person violating the provisions of Section C16-11 of this chapter, relating to heritage trees, shall incur a civil penalty in an amount from $10,000.00 to $200,000.00 per heritage tree thus cut, destroyed, killed, removed, or adversely pruned. The amount of the fine shall take into account whether the removal was intentional and whether the trees were rare, ancient, of exceptional size or age, or of exceptional historical significance to the community. Such action shall be brought in the name of the County of Santa Clara by the office of County Counsel. In addition to any civil penalty, any person violating the provisions of Section C16-11 of this division shall incur a criminal penalty in an amount from $10,000.00 to $200,000.00 per heritage tree thus cut, destroyed, killed, removed, or adversely pruned.

(d) In addition to any other remedy, the County of Santa Clara may seek to enjoin such unlawful activity, immediately upon receiving notification that any person is engaged in the act of removing or pruning a tree in violation of this chapter. The cost of such injunction shall become a lien on the property where such unlawful activity took place.

(e) In addition to any other applicable penalties, any person unlawfully removing or pruning a tree without a permit may be required to replace the unlawfully removed tree with ten trees of a like kind and species where feasible, or of a kind and species to be determined by the Planning Department.

(f) Any person obtaining a permit to remove any tree subject to the provisions of this article through the intentional use of misinformation or by intentionally providing misinformation to the Planning Department shall be in violation of this chapter and shall incur the criminal and/or civil penalties provided for in Subsections (a) through (e) above.

(g) All civil and criminal penalties and restitution assessed and collected pursuant to Subsections (b) and (c) shall be placed in a tree preservation fund, to be used for planting trees anywhere in the unincorporated areas of the County of Santa Clara. The tree preservation fund will be administered by the County of Santa Clara or its designee.

(Ord. No. NS-1203.107, § 1, 2-11-97)

APPENDIX D
Proposed Action for Each Tree

Appendix D

Adobe Creek Reach 5, City of Los Altos and Town of Los Altos Hills

Tree No.	Survey No.	Property Owner	Scientific Name	Species	Trunk Diameter	Proposed Action	Comments on Proposed Action
201	6493	Lemp/Millar	*Sequoia sempervirens*	Coast redwood	35	Preserve	
202	6494	Lemp/Millar	*Sequoia sempervirens*	Coast redwood	14	Preserve	
203	6495	Lemp/Millar	*Sequoia sempervirens*	Coast redwood	23	Preserve	
204	6496	Lemp/Millar	*Sequoia sempervirens*	Coast redwood	25	Preserve	
205	6497	Lemp/Millar	*Sequoia sempervirens*	Coast redwood	25	Preserve	
206	6498	Lemp/Millar	*Sequoia sempervirens*	Coast redwood	39	Preserve	Healthy tree that is 8' from wall.
207	6075	Lemp/Millar	*Sequoia sempervirens*	Coast redwood	15	Tentatively Preserve	Close to gunite wall, recommend based on bank stability.
208	-	Levis	*Sequoia sempervirens*	Coast redwood	21	Preserve	Healthy tree that is 8' from wall.
209	6077	Levis	*Sequoia sempervirens*	Coast redwood	16	Tentatively Preserve	Close to gunite wall, recommend based on bank stability.
210	6076	Levis	*Sequoia sempervirens*	Coast redwood	18	Remove	Poor health, will not tolerate impacts.
211	6081	Levis	*Sequoia sempervirens*	Coast redwood	24	Tentatively Preserve	Close to gunite wall, recommend based on bank stability.
212	6082	Levis	*Sequoia sempervirens*	Coast redwood	24	Tentatively Preserve	Close to gunite wall, recommend based on bank stability.
213	6083	Levis	*Sequoia sempervirens*	Coast redwood	15	Remove	Poor health, will not tolerate impacts.
214	6084	Levis	*Quercus lobata*	Valley oak	18	Tentatively Preserve	Channel moves away, but close to existing bank.
215	6085	Levis	*Sequoia sempervirens*	Coast redwood	12	Remove	Dead.
216	6140	Levis	*Sequoia sempervirens*	Coast redwood	14	Remove	Poor health and structure, will not tolerate impacts.
217	6139	Theis	*Sequoia sempervirens*	Coast redwood	14	Remove	Poor health and structure, will not tolerate impacts.
218	6141	Theis	*Eucalyptus globulus*	Blue gum	18	Remove	Poor structure; very close to edge, will not tolerate impacts; Detrimental habitat value.
219	6138	Theis	*Sequoia sempervirens*	Coast redwood	12	Tentatively Preserve	Close to edge; removing neighboring trees.
220	6137	Theis	*Sequoia sempervirens*	Coast redwood	16	Remove	Poor health and structure, will not tolerate impacts.
221	6136	Theis	*Sequoia sempervirens*	Coast redwood	36	Tentatively Preserve	Close to edge of vertical wall.
222	6142	Theis	*Sequoia sempervirens*	Coast redwood	16	Preserve	
223	6144	Theis	*Sequoia sempervirens*	Coast redwood	14	Remove	Close to edge of vertical wall, poor health and structure, will not tolerate impacts.
224	6145	Theis	*Sequoia sempervirens*	Coast redwood	11	Remove	Close to edge of vertical wall, poor health, will not tolerate impacts.
225	-	Wittner	*Sequoia sempervirens*	Coast redwood	22	Preserve	
226	6163	Wittner	*Sambucus mexicana*	Elderberry	7	Remove	Poor health and structure.
227	6162	Wittner	*Quercus suber*	Cork oak	12	Preserve	
228	6161	Wittner	*Sequoia sempervirens*	Coast redwood	16	Preserve	
229	6158	Wittner	*Sequoia sempervirens*	Coast redwood	26	Preserve	
230	6158	Wittner	*Sequoia sempervirens*	Coast redwood	38	Preserve	
232	6164	Wittner	*Laurus nobilis*	Grecian laurel	11	Preserve	
233	6165	Wittner	*Sequoia sempervirens*	Coast redwood	17	Tentatively Preserve	Extremely close to bank but existing wall will remain.
234	6171	Wentz	*Sequoia sempervirens*	Coast redwood	12	Remove	Close to grading line.
235	6170	Wentz	*Sequoia sempervirens*	Coast redwood	9	Tentatively Preserve	6' from wall edge now, but in plan channel gets closer to trunk.
237	6172	Wentz	*Sequoia sempervirens*	Coast redwood	15	Preserve	
238	6201	Wentz	*Sequoia sempervirens*	Coast redwood	9	Preserve	
239	6200	Wentz	*Chamaecyparis lawsoniana*	Port Orford cedar	8	Preserve	
240	6203	Wentz	*Sequoia sempervirens*	Coast redwood	32	Preserve	
241	6204	Echerd	*Sequoia sempervirens*	Coast redwood	40	Preserve	
242	6213	Echerd	*Sequoia sempervirens*	Coast redwood	9	Remove	Poor health and structure; almost dead.
243	6212	Echerd	*Sequoia sempervirens*	Coast redwood	9	Preserve	
244	6214	Echerd	*Sequoia sempervirens*	Coast redwood	11	Remove	Concrete in front of trunk and behind; moderate health.
245	6215	Echerd	*Sequoia sempervirens*	Coast redwood	19	Preserve	On edge of steep slope but existing gunite is to remain.
246	6216	Echerd	*Sequoia sempervirens*	Coast redwood	32	Preserve	On edge of steep slope but existing gunite is to remain.
247	6217	Echerd	*Sequoia sempervirens*	Coast redwood	13	Preserve	On edge of steep slope but existing gunite is to remain.
248	6218	Echerd	*Sequoia sempervirens*	Coast redwood	10	Preserve	On edge of steep slope but existing gunite is to remain.
249	6219	Echerd	*Sequoia sempervirens*	Coast redwood	28	Preserve	On edge of steep slope but existing gunite is to remain.
250	6220	Echerd	*Sequoia sempervirens*	Coast redwood	12	Preserve	On edge of steep slope but existing gunite is to remain.
251	6221	Echerd	*Sequoia sempervirens*	Coast redwood	13	Preserve	On edge of steep slope but existing gunite is to remain.
252	6222	Echerd	*Sequoia sempervirens*	Coast redwood	17	Preserve	On edge of steep slope but existing gunite is to remain.
253	6223	Echerd	*Sequoia sempervirens*	Coast redwood	11	Remove	Poor health and structure.
254	6224	Echerd	*Sequoia sempervirens*	Coast redwood	15	Preserve	On edge of steep slope but existing gunite is to remain.
255	6225	Echerd	*Sequoia sempervirens*	Coast redwood	8	Remove	Dead.
256	6226	Echerd	*Sequoia sempervirens*	Coast redwood	21	Preserve	On edge of steep slope but existing gunite is to remain.
257	6227	Echerd	*Sequoia sempervirens*	Coast redwood	15	Preserve	On edge of steep slope but existing gunite is to remain.
258	6261	Lippe	*Sequoia sempervirens*	Coast redwood	31	Preserve	On edge of steep slope but existing gunite is to remain.

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Tree No.	Survey No.	Property Owner	Scientific Name	Species	Trunk Diameter	Proposed Action	Comments on Proposed Action
259	6262	Lippe	*Sequoia sempervirens*	Coast redwood	9	Remove	Poor health and structure.
260	6263	Lippe	*Sequoia sempervirens*	Coast redwood	8	Remove	Poor health and structure.
261	6264	Lippe	*Sequoia sempervirens*	Coast redwood	8	Remove	Poor health and structure.
262	6265	Lippe	*Sequoia sempervirens*	Coast redwood	9	Preserve	On edge of steep slope but existing gunite is to remain.
263	6267	Lippe	*Eucalyptus sideroxylon*	Red ironbark	21	Remove	On edge of steep slope but existing gunite is to remain. Detrimental habitat value.
264	6268	Lippe	*Eucalyptus sideroxylon*	Red ironbark	26	Remove	On edge of steep slope but existing gunite is to remain. Detrimental habitat value.
265	6266	Lippe	*Sequoia sempervirens*	Coast redwood	9	Preserve	On edge of steep slope but existing gunite is to remain.
266	6273	Lippe	*Juglans californica var. hindsii*	Northern California black walnut	10	Remove	Poor health and structure; Detrimental habitat value.
267	6272	Lippe	*Sequoia sempervirens*	Coast redwood	21	Preserve	On edge of steep slope but existing gunite is to remain.
268	6271	Lippe	*Sequoia sempervirens*	Coast redwood	8	Remove	Poor health and structure.
269	6270	Lippe	*Umbellularia californica*	California bay	5	Preserve	
270	6269	Lippe	*Eucalyptus sideroxylon*	Red ironbark	24	Remove	Detrimental habitat value.
271	6286	Lippe	*Eucalyptus polyanthemos*	Silver dollar gum	11	Remove	Poor health and structure; Detrimental habitat value.
272	6289	Lippe	*Aesculus californica*	California buckeye	6	Preserve	
273	6287	Remmel	*Quercus agrifolia*	Coast live oak	26	Preserve	
274	6288	Remmel	*Eucalyptus globulus*	Blue gum	41	Remove	Detrimental habitat value.
275	6290	Remmel	*Eucalyptus globulus*	Blue gum	48	Remove	Detrimental habitat value.
276	6291	Remmel	*Sequoia sempervirens*	Coast redwood	8	Preserve	
277	6292	Remmel	*Sequoia sempervirens*	Coast redwood	17	Preserve	
278	6293	Remmel	*Sequoia sempervirens*	Coast redwood	10	Preserve	
279	6294	Remmel	*Sequoia sempervirens*	Coast redwood	7	Preserve	
280	6295	Remmel	*Sequoia sempervirens*	Coast redwood	8	Preserve	
283	6298	Robinwood Pool Inc.	*Calocedrus decurrens*	California incense cedar	7	Preserve	
284	6300	Van Horne	*Diospyros lotus*	Date plum	11	Preserve	
285	6303	Van Horne	*Aesculus californica*	California buckeye	12	Preserve	
286	6305	Van Horne	*Sambucus mexicana*	Elderberry	7	Remove	Poor health and structure.
287	6306	Van Horne	*Aesculus californica*	California buckeye	20	Preserve	
288	6307	Van Horne	*Aesculus californica*	California buckeye	20	Preserve	
289	6308	Van Horne	*Aesculus californica*	California buckeye	23	Preserve	
290	6316	Van Horne	*Sambucus mexicana*	Elderberry	12	Remove	Poor health and structure.
291	-	Ward	*Juglans californica var. hindsii*	Northern California black walnut	9	Remove	Detrimental habitat value.
292	-	Ward	*Calocedrus decurrens*	California incense cedar	21	Preserve	
293	-	Ward	*Calocedrus decurrens*	California incense cedar	22	Preserve	
294	-	Moos	*Quercus agrifolia*	Coast live oak	17	Preserve	
295	6332	Moos	*Sambucus mexicana*	Elderberry	24	Remove	Poor health and structure.
296	6334	Moos	*Prunus cerasifera*	Plum	6,5	Remove	Poor health and structure; Detrimental habitat value.
297	6339	Moos	*Aesculus californica*	California buckeye	4	Preserve	
298	6335	Moos	*Prunus cerasifera*	Plum	13	Remove	Poor health; Detrimental habitat value.
299	6359	Moos	*Sambucus mexicana*	Elderberry	7	Remove	Dead.
300	6360	Moos	*Quercus agrifolia*	Coast live oak	15	Preserve	
301	6361	Moos	*Juglans californica var. hindsii*	Northern California black walnut	19	Remove	Detrimental habitat value.
302	6363	Moos	*Aesculus californica*	California buckeye	5	Preserve	
303	6362	Moos	*Quercus agrifolia*	Coast live oak	10	Preserve	
304	6364	Moos	*Quercus agrifolia*	Coast live oak	10	Remove	Leaning heavily over creek; trunk rubbing #305.
305	6365	Moos	*Quercus agrifolia*	Coast live oak	5	Preserve	
306	6366	Moos	*Quercus agrifolia*	Coast live oak	7	Remove	On edge of bank; soil eroded away from root ball.
307	6367	Moos	*Quercus agrifolia*	Coast live oak	6	Remove	On edge of bank; soil eroded away from root ball.
308	6369	Moos	*Quercus agrifolia*	Coast live oak	9	Remove	On edge of bank; soil eroded away from root ball.
309	6367	Moos	*Quercus agrifolia*	Coast live oak	4	Remove	2.5 feet from edge; soil eroded away from root ball.
310	6354	Moos	*Quercus lobata*	Valley oak	22	Preserve	
311	6355	Moos	*Platycladus orientalis*	Oriental arborvitae	9	Remove	Poor health.
312	6341	Moos	*Juglans californica var. hindsii*	Northern California black walnut	5	Remove	Poor health and structure; Detrimental habitat value.
313	6376	Moos	*Chamaecyparis lawsoniana*	Port Orford cedar	12	Remove	Poor health and structure.
314	6378	Moos	*Eucalyptus globulus*	Blue gum	16	Remove	Detrimental habitat value.

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Tree No.	Survey No.	Property Owner	Scientific Name	Species	Trunk Diameter	Proposed Action	Comments on Proposed Action
315	6379	Moos	*Olea europaea*	Olive	5,4	Remove	Detrimental habitat value.
316	6392	Moos	*Eucalyptus globulus 'Compacta'*	Dwarf blue gum	28	Remove	Detrimental habitat value.
317	6409	Moos	*Quercus agrifolia*	Coast live oak	11	Preserve	
318	6410	Moos	*Olea europaea*	Olive	15	Remove	Detrimental habitat value.
319	6413	Moos	*Aesculus californica*	California buckeye	21	Tentatively Preserve	On edge of sackcrete wall. No work scheduled currently.
320	6412	Moos	*Umbellularia californica*	California bay	7	Preserve	
321	6383	Moos	*Populus nigra 'Italica'*	Lombardy poplar	7	Remove	Invasive roots; Detrimental habitat value.
322	6382	Moos	*Populus nigra 'Italica'*	Lombardy poplar	6	Remove	Invasive roots; Detrimental habitat value.
323	6238	Rogez	*Sequoia sempervirens*	Coast redwood	38	Preserve	
324	6239	Rogez	*Sequoia sempervirens*	Coast redwood	42	Remove	In proposed channel.
325	6234	Rogez	*Sequoia sempervirens*	Coast redwood	53	Preserve	
326	6233	Rogez	*Sequoia sempervirens*	Coast redwood	32	Preserve	
327	6232	Rogez	*Sequoia sempervirens*	Coast redwood	26	Preserve	
328	6230	Rogez	*Sequoia sempervirens*	Coast redwood	21	Preserve	
329	6231	Rogez	*Sequoia sempervirens*	Coast redwood	26	Preserve	
330	6229	Rogez	*Sequoia sempervirens*	Coast redwood	48	Preserve	
331	6228	Rogez	*Sequoia sempervirens*	Coast redwood	32	Preserve	
332	6235	Rogez	*Sequoia sempervirens*	Coast redwood	19	Preserve	
333	6423	Astiz	*Pinus radiata*	Monterey pine	12	Preserve	
334	6422	Astiz	*Pinus radiata*	Monterey pine	13	Preserve	
335	6421	Astiz	*Pinus radiata*	Monterey pine	13	Preserve	
336	6424	Astiz	*Acacia melanoxylon*	Blackwood acacia	7	Remove	Detrimental habitat value.
337	6420	Astiz	*Pinus radiata*	Monterey pine	13	Preserve	
338	6419	Astiz	*Pinus radiata*	Monterey pine	17	Preserve	
339	6418	Astiz	*Pinus radiata*	Monterey pine	13	Preserve	
340	6417	Astiz	*Pinus radiata*	Monterey pine	13	Preserve	
341	6425	Astiz	*Juglans regia*	English walnut	19	Remove	Detrimental habitat value.
342	6416	Astiz	*Pinus radiata*	Monterey pine	14	Preserve	
343	6415	Astiz	*Pinus radiata*	Monterey pine	18	Preserve	
344	6414	Astiz	*Pinus radiata*	Monterey pine	16	Preserve	
345	6278	Moos	*Phoenix canariensis*	Canary Island date palm	36	Remove	In proposed channel.
501	6073	Astiz	*Juglans californica var. hindsii*	Northern California black walnut	6.5	Remove	In proposed channel; Detrimental habitat value.
502	6074	Astiz	*Eucalyptus globulus*	Blue gum	47.5	Remove	In proposed channel; Detrimental habitat value.
503	6087	Astiz	*Acacia melanoxylon*	Blackwood acacia	13.6	Remove	In proposed channel; Detrimental habitat value.
504	6088	Astiz	*Acacia melanoxylon*	Blackwood acacia	16.4	Remove	In proposed channel; Detrimental habitat value.
505	6086*	Astiz	*Sequoia sempervirens*	Coast redwood	21.3	Remove	In proposed channel.
506	6086*	Astiz	*Sequoia sempervirens*	Coast redwood	27.3	Remove	In proposed channel.
507	6093	Astiz	*Acacia melanoxylon*	Blackwood acacia	11.1	Remove	In proposed channel.
508	6102	Astiz	*Eucalyptus globulus*	Blue gum	44.2	Remove	In proposed channel.
509	6096	Astiz	*Platycladus orientalis*	Oriental arborvitae	10.4	Remove	In proposed channel.
510	6097	Astiz	*Platycladus orientalis*	Oriental arborvitae	11.3	Remove	In proposed channel.
511	6109	Astiz	*Acacia melanoxylon*	Blackwood acacia	9.1	Remove	In proposed channel; Detrimental habitat value.
512	6110	Astiz	*Platycladus orientalis*	Oriental arborvitae	11	Remove	In proposed channel.
513	6108	Astiz	*Acacia melanoxylon*	Blackwood acacia	10.4	Remove	In proposed channel; Detrimental habitat value.
514	6103	Astiz	*Eucalyptus globulus*	Blue gum	34.8	Remove	In proposed channel; Detrimental habitat value.
515	6104	Astiz	*Eucalyptus globulus*	Blue gum	23.5	Remove	Dead.
516	6123	Astiz	*Acacia melanoxylon*	Blackwood acacia	9.5	Remove	Close to grading line; Detrimental habitat value.
517	-	Astiz	*Acacia melanoxylon*	Blackwood acacia	25.3	Remove	Close to grading line; Detrimental habitat value.
518	6135	Astiz	*Acacia melanoxylon*	Blackwood acacia	13	Remove	Close to grading line; Detrimental habitat value.
519	-	Astiz	*Acacia melanoxylon*	Blackwood acacia	7.9	Remove	Close to grading line; Detrimental habitat value.
520	6131	Astiz	*Acacia melanoxylon*	Blackwood acacia	11.5	Remove	Close to grading line; Detrimental habitat value.
521	6128	Astiz	*Acacia melanoxylon*	Blackwood acacia	23.4	Remove	Close to grading line; Detrimental habitat value.
522	6124	Astiz	*Acacia melanoxylon*	Blackwood acacia	6.7	Remove	In proposed channel; Detrimental habitat value.
523	6178	Astiz	*Eucalyptus globulus*	Blue gum	45.6	Remove	In proposed channel; Detrimental habitat value.
524	6179	Astiz	*Eucalyptus globulus*	Blue gum	27.1	Remove	In proposed channel; Detrimental habitat value.
525	6198	Astiz	*Eucalyptus globulus*	Blue gum	35.6	Remove	In proposed channel; Detrimental habitat value.
526	6197	Rogez	*Eucalyptus globulus*	Blue gum	16.2	Remove	In proposed channel; Detrimental habitat value.

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Tree No.	Survey No.	Property Owner	Scientific Name	Species	Trunk Diameter	Proposed Action	Comments on Proposed Action
527	6196	Rogez	*Eucalyptus globulus*	Blue gum	35.7	Remove	In proposed channel; Detrimental habitat value.
528	6195	Rogez	*Eucalyptus globulus*	Blue gum	27.8	Remove	In proposed channel; Detrimental habitat value.
529	6180	Rogez	*Eucalyptus globulus*	Blue gum	14	Remove	In proposed channel; Detrimental habitat value.
530	6192	Rogez	*Eucalyptus globulus*	Blue gum	21.3	Remove	In proposed channel; Detrimental habitat value.
531	6191	Rogez	*Eucalyptus globulus*	Blue gum	13.4	Remove	In proposed channel; Detrimental habitat value.
532	6190	Rogez	*Eucalyptus globulus*	Blue gum	29.4	Remove	In proposed channel; Detrimental habitat value.
533	6189	Rogez	*Eucalyptus globulus*	Blue gum	15.5	Remove	In proposed channel; Detrimental habitat value.
534	6184	Rogez	*Eucalyptus globulus*	Blue gum	39.9	Remove	In proposed channel; Detrimental habitat value.
535	6183	Rogez	*Juglans californica var. hindsii*	Northern California black walnut	13.7	Remove	In proposed channel; Detrimental habitat value.
536	6240	Rogez	*Umbellularia californica*	California bay	16.8	Remove	In proposed channel.
537	6242	Rogez	*Aesculus californica*	California buckeye	6.9	Remove	In proposed channel.
538	6243	Rogez	*Quercus agrifolia*	Coast live oak	7.4	Remove	In proposed channel.
539	-	Rogez	*Umbellularia californica*	California bay	20.3	Remove	In proposed channel.
540	6247	Rogez	*Ligustrum lucidum*	Glossy privet	19.6	Remove	In proposed channel; Detrimental habitat value.
541	6244	Rogez	*Ligustrum lucidum*	Glossy privet	8.6	Remove	In proposed channel; Detrimental habitat value.
542	6245	Rogez	*Eucalyptus globulus*	Blue gum	14.8	Remove	In proposed channel; Detrimental habitat value.
543	6246	Rogez	*Quercus agrifolia*	Coast live oak	9.2	Remove	In proposed channel.
544	6248	Rogez	*Phoenix canariensis*	Canary Island date palm	31.8	Remove	In proposed channel, grading cut is very close to trunk.
545	6250	Rogez	*Eucalyptus globulus*	Blue gum	27.7	Remove	In proposed channel; Detrimental habitat value.
546	6251	Rogez	*Eucalyptus globulus*	Blue gum	22.4	Remove	In proposed channel; Detrimental habitat value.
547	6252	Rogez	*Eucalyptus sideroxylon*	Red ironbark	10.5	Remove	In proposed channel; Detrimental habitat value.
548	6253	Rogez	*Ligustrum lucidum*	Glossy privet	8.2	Remove	In proposed channel; Detrimental habitat value.
549	6254	Rogez	*Eucalyptus sideroxylon*	Red ironbark	10.1	Remove	In proposed channel; Detrimental habitat value.
550	6255	Rogez	*Sambucus mexicana*	Elderberry	14.5	Remove	In proposed channel.
551	6257	Rogez	*Eucalyptus globulus*	Blue gum	14.7	Remove	In proposed channel; Detrimental habitat value.
552	6259	Moos	*Eucalyptus globulus*	Blue gum	31.9	Remove	In proposed channel; Detrimental habitat value.
553	6283	Moos	*Ligustrum lucidum*	Glossy privet	10.1	Remove	In proposed channel; Detrimental habitat value.
554	6284	Moos	*Quercus agrifolia*	Coast live oak	10.9	Remove	In proposed channel.
555	6281	Moos	*Ligustrum lucidum*	Glossy privet	7.8	Remove	In proposed channel.
556	6280	Moos	*Ligustrum lucidum*	Glossy privet	15.4	Remove	In proposed channel.
557	6279	Moos	*Ligustrum lucidum*	Glossy privet	10.6	Remove	In proposed channel.
558	6285	Moos	*Quercus agrifolia*	Coast live oak	11.3	Remove	In proposed channel.
559	6277	Moos	*Eucalyptus globulus*	Blue gum	55.3	Remove	In proposed channel; Detrimental habitat value.
560	6440	Astiz	*Euonymus japonica*	Evergreen euonymous	22.3	Remove	Close to grading line.
561	6441	Astiz	*Calocedrus decurrens*	California incense cedar	13.8	Tentatively Preserve	Close to grading line; row along drive.
562	6442	Astiz	*Platycladus orientalis*	Oriental arborvitae	17.7	Tentatively Preserve	Close to grading line; row along drive.
563	6443	Astiz	*Acacia melanoxylon*	Blackwood acacia	6.9	Remove	Detrimental habitat value.
564	6444	Astiz	*Calocedrus decurrens*	California incense cedar	15.4	Tentatively Preserve	Close to grading line; row along drive.
565	6445	Astiz	*Platycladus orientalis*	Oriental arborvitae	22.1	Tentatively Preserve	Close to grading line; row along drive.
566	6446	Astiz	*Platycladus orientalis*	Oriental arborvitae	23.3	Tentatively Preserve	Close to grading line; row along drive.
567	6447	Astiz	*Platycladus orientalis*	Oriental arborvitae	19.2	Tentatively Preserve	Close to grading line; row along drive.
568	6448	Astiz	*Platycladus orientalis*	Oriental arborvitae	23.2	Tentatively Preserve	Close to grading line; row along drive.
569	6449	Astiz	*Calocedrus decurrens*	California incense cedar	11	Tentatively Preserve	Close to grading line; row along drive.
570	6450	Astiz	*Calocedrus decurrens*	California incense cedar	17.7	Remove	Close to grading line; in moderate health.
571	6451	Astiz	*Platycladus orientalis*	Oriental arborvitae	15	Tentatively Preserve	Close to grading line; row along drive.
572	-	Astiz	*Acacia melanoxylon*	Blackwood acacia	6.4	Remove	Close to grading line; Detrimental habitat value.
573	6452	Astiz	*Calocedrus decurrens*	California incense cedar	19.7	Tentatively Preserve	Close to grading line; row along drive.
574	6454	Astiz	*Calocedrus decurrens*	California incense cedar	18.8	Remove	Close to grading line; in poor health.
575	6456	Astiz	*Quercus agrifolia*	Coast live oak	23.1	Tentatively Preserve	Close to grading line; row along drive.
576	6457	Astiz	*Platycladus orientalis*	Oriental arborvitae	9.4	Tentatively Preserve	Close to grading line; row along drive.
577	6458	Astiz	*Platycladus orientalis*	Oriental arborvitae	22.3	Tentatively Preserve	Close to grading line; row along drive.
578	6459*	Astiz	*Acacia melanoxylon*	Blackwood acacia	11.3	Remove	Detrimental habitat value.
579	6460	Astiz	*Acacia melanoxylon*	Blackwood acacia	14.6	Remove	Detrimental habitat value.
580	6459*	Astiz	*Acacia melanoxylon*	Blackwood acacia	6	Remove	Detrimental habitat value.
581	6461	Astiz	*Platycladus orientalis*	Oriental arborvitae	14.2	Preserve	
582	6462	Astiz	*Acacia dealbata*	Silver wattle	31.9	Remove	Detrimental habitat value.
583	6463	Astiz	*Acacia melanoxylon*	Blackwood acacia	9	Remove	Detrimental habitat value.

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584	6206	Rogez	*Olea europaea*	Olive	26.5	Remove	Close to grading line; poor structure; Detrimental habitat value.
585	6211	Rogez	*Photinia* sp.	Photinia	17.6	Preserve	
586	6469	Rogez	*Eucalyptus globulus*	Blue gum	38.3	Remove	Detrimental habitat value.
587	6470	Rogez	*Calocedrus decurrens*	California incense cedar	15.9	Preserve	
588	6411	Moos	*Prunus cerasifera*	Plum	15	Remove	Detrimental habitat value.
589	-	Moos	*Prunus cerasifera*	Plum	13.5	Remove	Detrimental habitat value.
590	6393	Moos	*Prunus cerasifera*	Plum	6.3	Remove	Detrimental habitat value.
591	-	Moos	*Populus nigra 'Italica'*	Lombardy poplar	7.4	Remove	Invasive roots; Detrimental habitat value.
592	6326	Moos	*Quercus agrifolia*	Coast live oak	7.4	Preserve	
593	6513	Ward	*Umbellularia californica*	California bay	14	Preserve	
594	-	Levis	*Sequoia sempervirens*	Coast redwood	35	Preserve	
595	-	Levis	*Sequoia sempervirens*	Coast redwood	22.1	Preserve	
596	6146	Thies	*Sequoia sempervirens*	Coast redwood	15.5	Preserve	
597	6147	Thies	*Sequoia sempervirens*	Coast redwood	19.5	Preserve	
598	6148	Thies	*Sequoia sempervirens*	Coast redwood	21.5	Preserve	
599	6149	Wittner	*Sequoia sempervirens*	Coast redwood	28.8	Preserve	
600	6152	Wittner	*Sequoia sempervirens*	Coast redwood	30	Preserve	
601	6154	Wittner	*Sequoia sempervirens*	Coast redwood	26.7	Preserve	
602	6159	Seligman	*Sequoia sempervirens*	Coast redwood	37.8	Preserve	
603	6168	Seligman	*Sequoia sempervirens*	Coast redwood	13.5	Preserve	
604	-	Remmel	*Aesculus californica*	California buckeye	9.1	Remove	Poor health and structure.
605	6296	Remmel	*Juglans californica var. hindsii*	Northern California black walnut	18.5	Remove	Poor health and structure; Detrimental habitat value.
606	-	Robinwood Pool Inc.	*Aesculus californica*	California buckeye	11.5	Preserve	
607	-	Robinwood Pool Inc.	*Sambucus mexicana*	Elderberry	27.7	Remove	Poor health and structure.
608	-	Robinwood Pool Inc.	*Quercus agrifolia*	Coast live oak	19.9	Remove	Poor health and structure.
609	-	Van Horne	*Aesculus californica*	California buckeye	11.1	Preserve	
610	6322	Van Horne	*Sequoia sempervirens*	Coast redwood	12.8	Preserve	
611	-	Van Horne	*Sambucus mexicana*	Elderberry	19.2	Remove	Poor health and structure.
612	6317	Van Horne	*Sambucus mexicana*	Elderberry	13.7	Preserve	
613	6527	Van Horne	*Quercus agrifolia*	Coast live oak	26.6	Preserve	
614	6529	Van Horne	*Aesculus californica*	California buckeye	9.5	Preserve	
615	6525	Van Horne	*Pinus radiata*	Monterey pine	32	Remove	Detrimental habitat value.
616	6532	Van Horne	*Aesculus californica*	California buckeye	6.2	Preserve	
617	6524	Van Horne	*Sequoia sempervirens*	Coast redwood	21.8	Preserve	
618	6523	Van Horne	*Sequoia sempervirens*	Coast redwood	20.1	Preserve	
619	6522	Van Horne	*Sequoia sempervirens*	Coast redwood	20.9	Preserve	
620	-	Lemp (Millar)	*Eucalyptus globulus*	Blue gum	6.9	Remove	In proposed channel; Detrimental habitat value.
621	6151	Wittner	*Sequoia sempervirens*	Coast redwood	28	Preserve	
622	6153	Wittner	*Sequoia sempervirens*	Coast redwood	21	Preserve	
623	6157	Wittner	*Sequoia sempervirens*	Coast redwood	26.5	Preserve	
624	6166	Seligman	*Sequoia sempervirens*	Coast redwood	18	Preserve	
625	6167	Seligman	*Sequoia sempervirens*	Coast redwood	26	Preserve	
626	6169	Seligman	*Sequoia sempervirens*	Coast redwood	12	Preserve	
627	-	Rogez	*Sambucus mexicana*	Elderberry	21	Remove	Poor health and structure.
628	-	Los Altos Hills	*Quercus lobata*	Valley oak	13	Preserve	

APPENDIX H

Wetland Delineation and Preliminary Jurisdictional Determination

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January 2007

FINAL

WETLAND DELINEATION AND PRELIMINARY JURISDICTIONAL DETERMINATION OF ADOBE CREEK UPPER REACH 5, SANTA CLARA VALLEY WATER DISTRICT, CITY OF LOS ALTOS AND TOWN OF LOS ALTOS HILLS, SANTA CLARA COUNTY, CALIFORNIA

The information provided in this document is intended solely for the use and benefit of EDAW and its client, the Santa Clara Valley Water District.

No other person or entity shall be entitled to rely on the services, opinions, recommendations, plans or specifications provided herein, without the express written consent of Sycamore Associates LLC, 2099 Mt. Diablo Blvd., Suite 204, Walnut Creek, CA 94596.

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1.0 INTRODUCTION

Sycamore Associates LLC (Sycamore) was contracted by EDAW, on behalf of the Santa Clara Valley Water District, to conduct a formal wetland delineation and jurisdictional determination of waters of the U.S. for the approximate 1,100 linear foot Adobe Creek Upper Reach 5 located on the boundary between the City of Los Altos and the Town of Los Altos Hills, from immediately above the West Edith Avenue bridge to just upstream of Foothill Expressway (Figure 1). Adobe Creek Reach 5 (hereafter referred to as the study area) is located in Section 30, Township 6 South, Range 2 West, as depicted on the Mountain View U.S. Geological Survey 7.5-minute topographic quadrangle (Figure 2). Elevations within the proposed project range from 145 to 175 feet above mean sea level.

The study area encompasses a stretch of Adobe Creek that runs from the West Edith Avenue Bridge to approximately 1,100 linear feet downstream. The proposed Adobe Creek Upper Reach 5 Restoration Project is designed to reduce the extent and quantity of overland flooding on the adjacent properties, as well as address the severe erosion problems inherent to the reach. Narrow channel cross sections found within this stretch of the creek have resulted in limited capacity (well below one percent) to handle FEMA floods. The present design represents the preferred alternative, and is scaled down from an earlier project design.

Residents of the City of Los Altos and Town of Los Altos Hills created the Adobe Creek Watershed Group (Collaborative) to address issues of flooding, erosion, and habitat loss. The Collaborative works closely with the Santa Clara Valley Water District, The City of Los Altos, and the Town of Los Altos Hills as the main stakeholders. As a result of stakeholder participation in the Collaborative, a preferred project alternative was developed and adopted for the flood protection component of the proposed project.

The proposed Adobe Creek Upper Reach 5 Restoration Project is intended to improve channel conveyance capacity, while continuing to allow for overland flows during flood events. Project design elements include widening of a portion of the creek channel, removal of accumulated sediment from underneath West Edith Avenue Bridge, localized repair of channel erosion and bank stabilization, removal of some existing concrete channel protection and reconstruction using minimal hardscape, and the removal of an existing concrete drop structure and replacement with a step-pool system using rock weir grade control structures intended to improve potential fish passage. The proposed project would modify the channel to create a natural stable geomorphic channel following a right of way agreed upon by the Collaborative, including physical modifications to the channel alignment and stream banks. Project improvements, in addition to reducing flooding and erosion, are anticipated to provide environmental benefits to the creek ecosystem.

Access to the creek by construction equipment would be from West Edith Avenue and from the yards of residences at 25617 West Fremont Road and 14116 Seven Acres Lane. Staging would take place in Edith Park and in the backyard of the Rogez property (Figure 3).

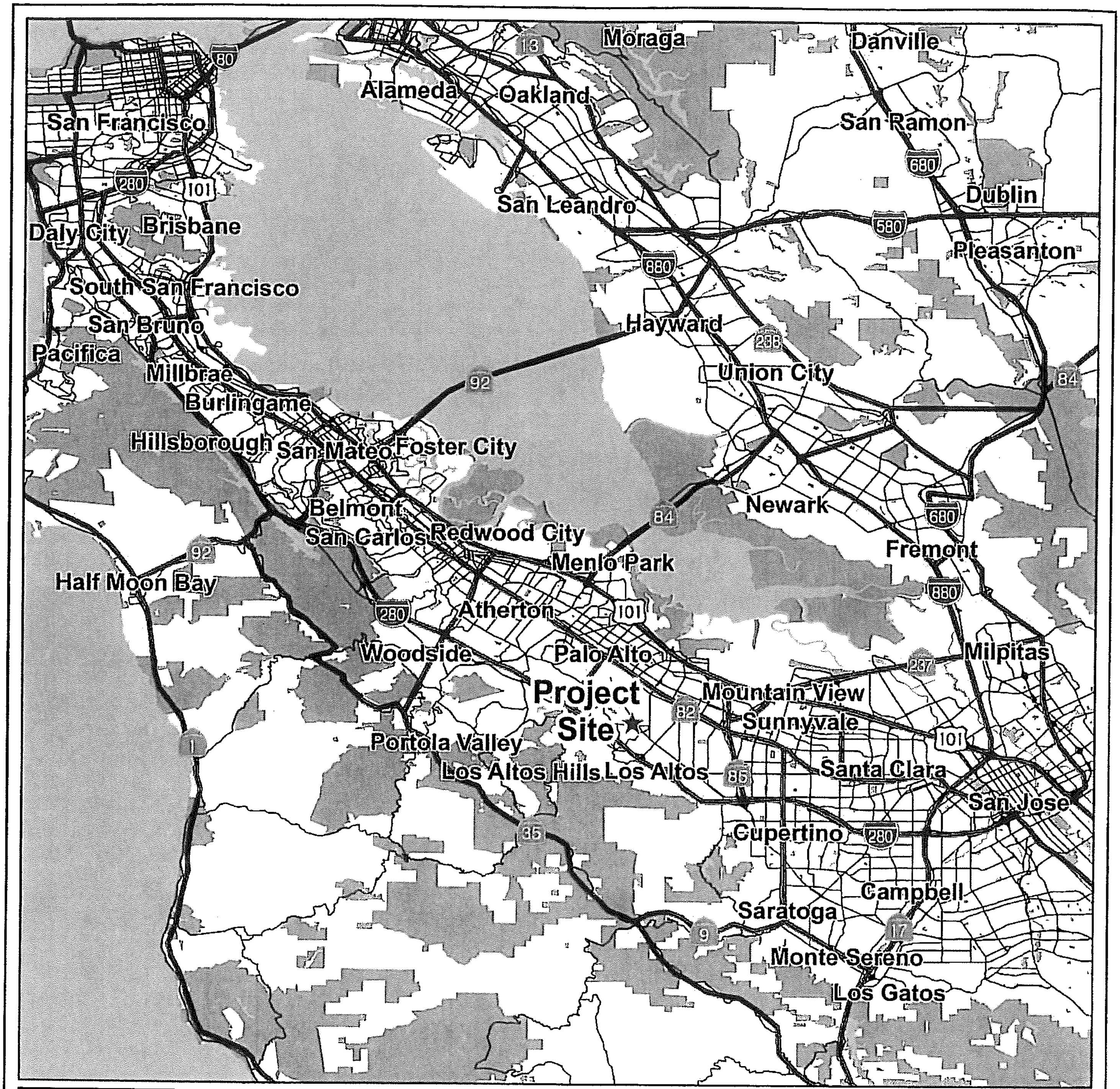

Figure 1

Regional Location of the Project Site

Adobe Creek Upper Reach 5 Project

Santa Clara County Water District

Los Altos & Los Altos Hills, Santa Clara County, California

This document provided for the sole use of the Santa Clara County Water District. This document not intended for detail design work. USGS quadrangles from the San Francisco Bay Area Regional Database (BARD).

1:380,160 11/17/05
1 inch equals 6 miles

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S:\Projects\EDAW\EDAW 1 - Santa Clara Valley Water District Slaff Extension\Adobe Upper Reach 5\Graphics\GIS\Regional Location 111105.mxd

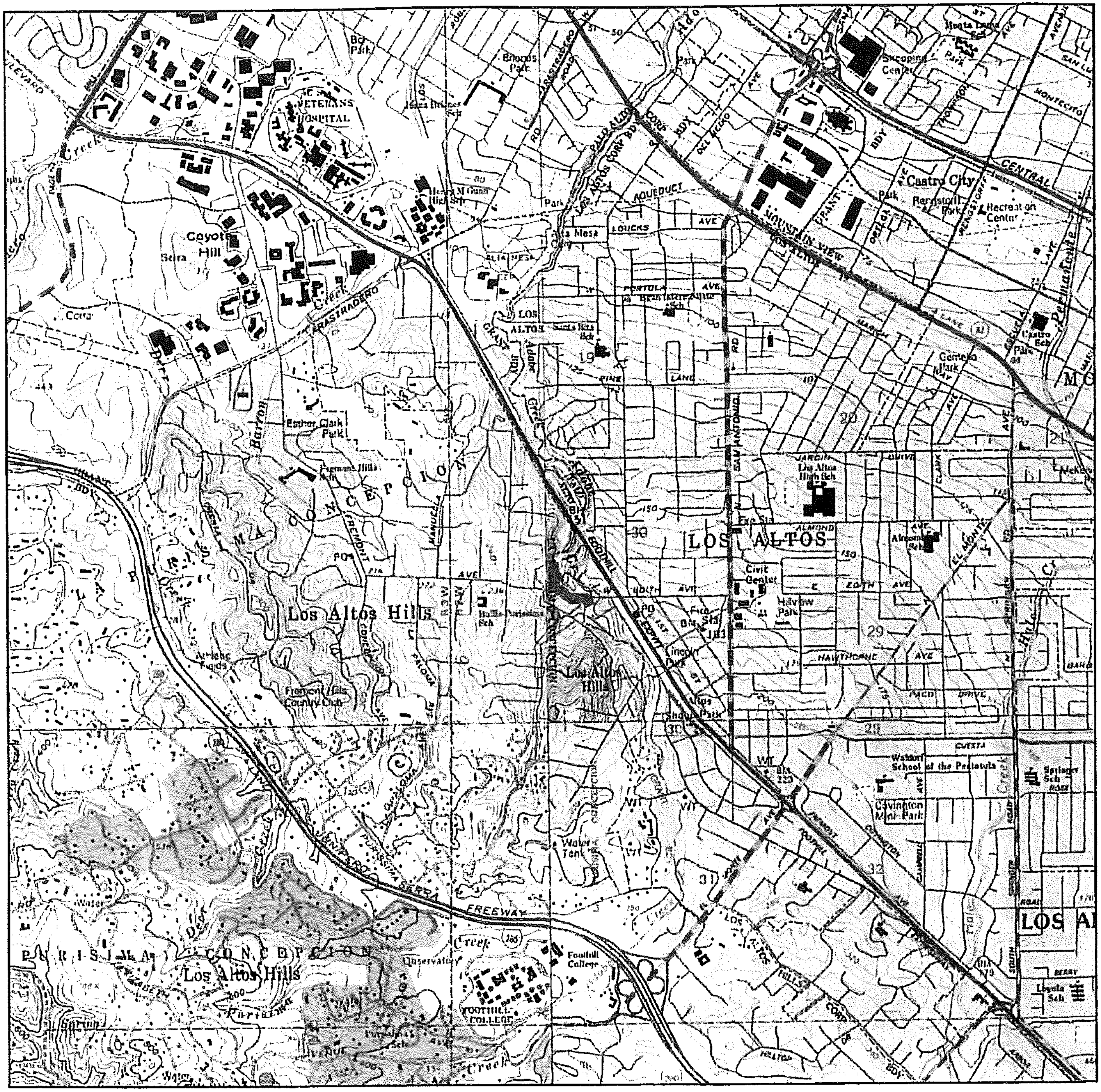

Figure 2A

Vicinity of the Project Site

Adobe Creek Upper Reach 5 Project

Santa Clara County Water District

Los Altos & Los Altos Hills, Santa Clara County, California

Legend

▭ Project Site

1:31,680 11/11/05

1 inch equals 0.5 miles

N

0 0.5 1 Miles

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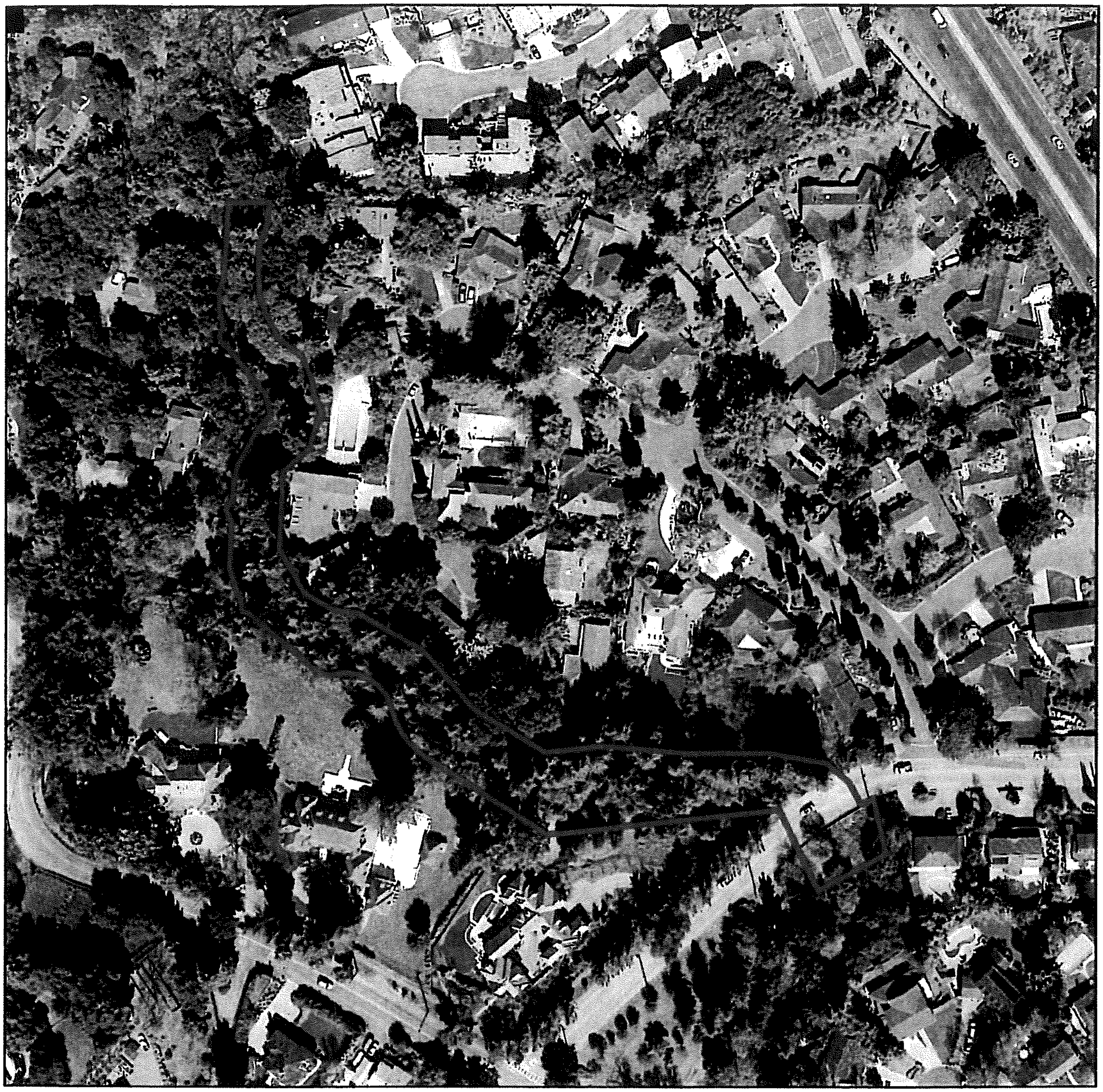

Legend

▭ Project Site

Figure 2B

Project Site Aerial Photo

Adobe Creek Upper Reach 5 Project

Santa Clara County Water District

Los Altos & Los Altos Hills, Santa Clara County, California

1:1,800 1/26/07

1 inch equals 150 feet

N

0 150 300

Feet

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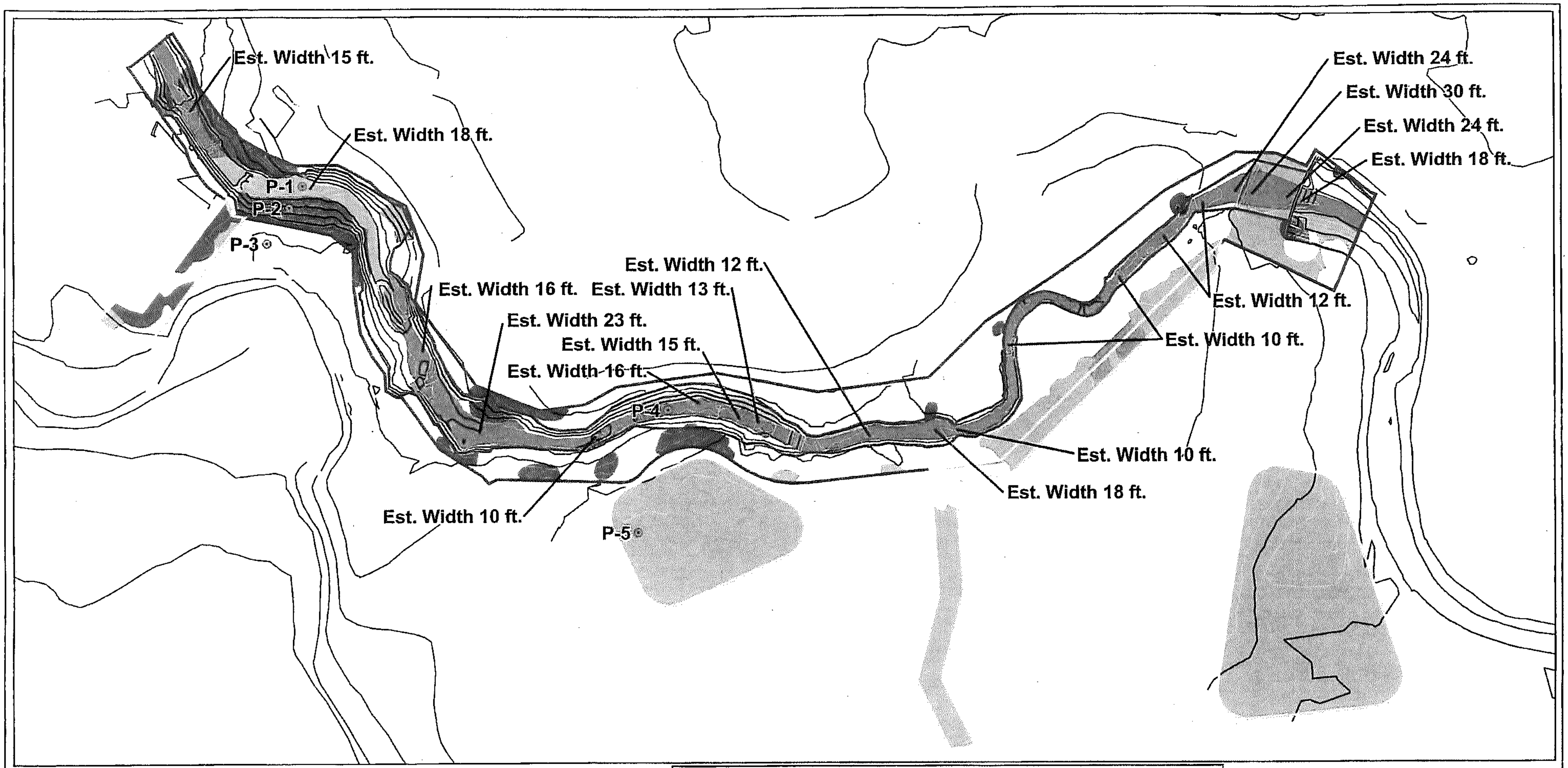

Figure 3

Wetland Delineation and Preliminary Jurisdictional Determination for Adobe Creek Upper Reach 5

Adobe Creek Upper Reach 5

Santa Clara Valley Water District

Los Altos & Los Altos Hills, Santa Clara County, California
Revised 1/17/07

This document provided for the sole use of the Santa Clara Valley Water District. Topographic contours provided by the Santa Clara Valley Water District. Biological conditions as noted during field reconnaissance (2005-2007). Conditions may vary and may be revised at a later date. This document is not intended for detailed design work

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Legend

- Unvegetated Waters: 12,996 sq. ft. (0.30 acre) 1,073 lin. ft.
- Freshwater Marsh: 2,310 sq. ft. (0.05 acre) 190 lin. ft.
- Total Potential USACE Jurisdictional Waters: 15,306 sq. ft. (0.35 acre) 1,263 lin. ft.
- Top of Bank - 33,495 ft. sq. (0.77 acre)
- Native Riparian Canopy*: 6,127 sq. ft. (0.14 acre)
- Non-Native Riparian Canopy*: 33,580 sq. ft. (0.77 acre)
- Non-Native Riparian Canopy with Hardscape Understory*: 1,248 sq. ft. (0.03 acre)
- Total Potential Waters of the State: 74,450 sq. ft. (1.71 acres) 1,263 lin. ft.
- Ruderal Landscape/Hardscape*: 44,461 sq. ft. (1.02 acres)
- ⊙ Data Point
- Staging Area & Access Points
- Study Boundary
- Estimated Width of Ordinary High Water (in ft.)

*Measurements given for riparian canopy and ruderal/hardscape are for areas falling outside top of bank.

1 inch equals 75 feet 1:900

0 75 150 Feet

N

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This report presents the results of current wetland studies and background research. A separate Biological Resources Report (Sycamore 2007, in preparation) is being submitted to the Santa Clara Valley Water District concurrently with this wetland delineation report, which will include an impact analysis of the proposed project and staging areas suitable for a CEQA planning level analysis and regulatory permitting purposes. Previously, H. T. Harvey & Associates conducted a wetland study and jurisdictional determination of Upper Adobe Creek that was verified by the U.S. Army Corps of Engineers in 1995 (H. T. Harvey & Associates 1993).

2.0 PURPOSE OF ASSESSMENT

The purpose of this formal wetland delineation and jurisdictional determination of waters of the U.S. and waters of the State is to support the Santa Clara Valley Water District's Adobe Creek Upper Reach 5 Project (including access points and staging areas) in compliance with local, state, and federal environmental regulations including the Clean Water Act and CEQA.

Aquatic resources, including riparian areas, wetlands, and certain aquatic vegetation communities are considered sensitive biological resources and can fall under the jurisdiction of several regulatory agencies.

The U.S. Army Corps of Engineers exerts jurisdiction over "waters of the U.S.," including, but not limited to all waters which are subject to the ebb and flow of tide; wetlands and other waters such as lakes, rivers, streams (including intermittent or ephemeral streams), mudflats, sandflats, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, or natural ponds, and tributaries of the above features. The extent of waters of the U.S. is generally defined as that portion which falls within the limits of "ordinary high water." Field indicators of ordinary high water include clear and natural lines on opposite sides of the banks, scouring, sedimentary deposits, drift lines, exposed roots, shelving, destruction of terrestrial vegetation, and the presence of litter or debris. Typically, the width of waters corresponds to the two-year flood event.

Wetlands, including swamps, bogs, seasonal wetlands, seeps, marshes and similar areas, are defined by the U.S. Army Corps of Engineers as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 [b]; 40 CFR 230.3 [t]). Indicators of three wetland parameters (hydric soils, hydrophytic vegetation, and wetlands hydrology as determined by field investigation) must be present for a site to be classified as a wetland by the U.S. Army Corps of Engineers (Environmental Laboratory 1987).

Waters of the State are regulated by both the California Department of Fish and Game and the Regional Water Quality Control Board. The California Department of Fish and Game exercises jurisdiction over wetland and riparian resources associated with rivers, streams, and lakes under California Fish and Game Code Sections 1600 to 1607. The California

Department of Fish and Game has the authority to regulate work that will substantially divert, obstruct, or change the natural flow of a river, stream, or lake; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed. The California Department of Fish and Game's jurisdiction along a river, stream, creek, or other water body is usually bounded by the top of bank or the outermost edges of riparian vegetation.

Under the Porter-Cologne Water Quality Control Act (Cal. Water Code §§13000-14920), the Regional Water Quality Control Board is authorized to regulate the discharge of waste that could affect the quality of the State's waters.

3.0 ENVIRONMENTAL SETTING

The headwaters of Adobe Creek originate in the northeasterly slopes of the Santa Cruz Mountains at an elevation of approximately 2,600 feet. The watershed drained by Adobe Creek measures roughly ten square miles, three-quarters of which are in mountainous terrain, and the balance consisting of valley floor. The creek, which flows for 14.7 miles, passes through unincorporated Santa Clara County, the Town of Los Altos Hills and the cities of Los Altos, Mountain View and Palo Alto before entering the Palo Alto Flood Basin (Wang *et al.* 2005; Leidy *et al.* 2005).

3.1 Vegetation

Nomenclature used in this report conforms to Hickman (1993) for plants except where noted. Plant community names conform to Holland (1986) and Sawyer and Keeler-Wolf (1995) where applicable; wetland community names conforming to Cowardin *et al.* (1979) are also given where appropriate.

Vegetation within the study area is primarily dominated by ornamental horticultural plantings typical of residential yards in the region. Open areas between planted trees and shrubs and their understories generally support ruderal, weedy vegetation characteristic of highly disturbed areas. Occasional native trees and shrubs are found scattered along the upper banks of the creek, many of them overhanging the stream channel. These are considered to be remnants of the native riparian woodland. Most of the creek banks between channel and top of bank have been reinforced with retaining walls, concrete, bricks, rock rip rap, or wooden structures, and support little or no vegetation, although several locations where stream bank fortification is lacking support dense colonies of weedy plant species such as Cape ivy (*Delairia odorata* [= *Senecio mikanioides*]) or Himalayan blackberry (*Rubus discolor*). Vegetation within the channel bottom is generally absent for most of its length, with very occasional individuals or small clumps of herbaceous species such as water cress (*Rorippa nasturtium-aquaticum*). At the downstream end of the study area, the channel supports a dense stand of freshwater marsh vegetation, consisting of mostly low-growing, emergent hydrophytic species. Vegetation communities as found on site are depicted in Figure 3, and are described in more detail below.

Non-Native Riparian and Ruderal Vegetation

A majority of the study area outside of the channel of Adobe Creek is dominated by ornamental plantings of horticultural trees and shrubs characteristic of residential yards in the neighborhood. Because of its proximity to a stream course, most of this is considered to be riparian vegetation. Typical landscape trees present on site include olive (*Olea europaea*), Tasmanian blue gum (*Eucalyptus globulus*), red ironbark (*Eucalyptus sideroxylon*), Canary Island date palm (*Phoenix canariensis*), Lombardy poplar (*Populus nigra*), glossy privet (*Ligustrum lucidum*), blackwood acacia (*Acacia melanoxylon*), cork oak (*Quercus suber*), English walnut (*Juglans regia*), Northern California black walnut (*Juglans californica var. hindsii*), coast redwood (*Sequoia sempervirens*), Monterey pine (*Pinus radiata*), and incense cedar (*Calocedrus decurrens*), among others. Planted ornamental herbs and shrubs on site include English ivy (*Hedera helix*), periwinkle (*Vinca major*), bamboo (*Bambusa* sp.), juniper (*Juniperus* sp.), trumpet creeper (*Bignonia* sp.), and cotoneaster (*Cotoneaster pannosa*), among others. Several native shrubs or herbs were also detected as plantings but were not encountered in natural occurrences within the study area. These include snowberry (*Symphoricarpos albus* var. *laevigatus*), alumroot (*Heuchera micrantha*), and toyon (*Heteromeles arbutifolia*).

Northern California black walnut, coast redwood, Monterey pine, and incense cedar, although native to California, are not naturally occurring trees within the study area. Coast redwoods on site are considered as planted trees based on an absence of cut stumps related to logging or growth in rings typical of second-growth redwoods. The trees are also generally smaller in stature than typical native redwoods in the region. Coast redwoods are not native to the floor of the Santa Clara Valley (Habitat Restoration Group 1989). Northern California black walnut is not considered native to the site, based on the understanding of its distribution in the wild before it was widely naturalized (Griffin and Critchfield 1976) after its extensive use as grafted rootstock for English walnuts. These trees are considered here to be waifs established from historical orchards in the area. Similarly, Monterey pine and incense cedar are outside of their ranges of natural distribution.

The open areas around planted trees and shrubs and their understories are dominated by ruderal plant species typical of highly disturbed places. Most landscaped areas in residential yards are routinely maintained for aesthetic reasons or fire suppression. In such areas the native vegetation has been completely removed by grading, cultivation, weeding, spraying, or other surface disturbances related to general yard maintenance and other human activities. Such areas, if left fallow or undeveloped, typically become colonized by invasive exotic species, although weedy native species may also be present. In some cases, the native vegetation may ultimately become at least partially restored if the soils are left intact and there is no further disturbance.

Typical weedy, non-native species detected on site in upland areas outside the creek banks include field bindweed (*Convolvulus arvensis*), common knotweed (*Polygonum arenastrum*), bristly ox-tongue (*Picris echioides*), Italian thistle (*Carduus pycnocephalus*), common sow-thistle (*Sonchus oleraceus*), hedge-parsley (*Torilis arvensis*), ripgut brome (*Bromus diandrus*), hare barley (*Hordeum leporinum*), smilo grass (*Piptatherum *miliaceum*), hoary mustard (*Hirschfeldia incana*), wild radish (*Raphanus sativa*), dittrichia (*Dittrichia graveolens*), and bull mallow (*Malva nicaeensis*), among others.

In cooler and moister situations along the lower portions of the creek banks, more shade-tolerant weed species are present, including Cape ivy, Himalayan blackberry, and poison hemlock (*Conium maculatum*).

Non-native riparian and ruderal vegetation as they occur on site are not specifically described by Sawyer and Keeler-Wolf (1995) and would be classified as upland following Cowardin, *et al.* (1979).

Remnant Central Coast Live Oak Riparian Forest

Central coast live oak riparian forest is characterized as a low, open, evergreen forest dominated by coast live oak (*Quercus agrifolia*). It is typically restricted to the drier, outer floodplains along perennial streams. It occurs in canyon bottoms and floodplains of the South Coast and Transverse ranges, at sea level to 3,500 feet, from Sonoma County south to near Point Conception. Characteristic species of this plant community detected in scattered locations on site include coast live oak, California buckeye (*Aesculus californica*), California bay laurel (*Umbellularia californica*), valley oak (*Quercus lobata*), and blue elderberry (*Sambucus mexicana*), among others. In the cooler, moister understory near the bottom of the creek bank, a single native western dogwood (*Cornus sericea* ssp. *occidentalis*) was observed.

Within the study area, discontinuous groups of trees and shrubs of the above species as well as scattered individuals are interpreted as remnants of what was once probably a more well developed plant community within the Adobe Creek watershed. Well developed riparian oak forest is found on Adobe Creek along the east side of Alta Mesa Cemetery approximately one mile downstream, and on the Foothill College campus approximately one and one-half miles upstream of the study area.

This vegetation type conforms to the coast live oak series as classified by Sawyer and Keeler-Wolf (1995). Remnants of this community along the high floodplain of Adobe Creek could be classified as palustrine seasonally flooded wetland following Cowardin *et al.* (1979).

Coastal and Valley Freshwater Marsh

Coastal and valley freshwater marsh typically occurs in low-lying sites that are permanently flooded with fresh water and lack significant flow. It is found on nutrient-rich mineral soils that are saturated for all or most of the year. This vegetation community is most extensive where surface flow is slow or stagnant or where the water table is so close to the surface as to saturate the soil from below. Valley freshwater marsh is most extensive in the upper portion of the Sacramento-San Joaquin River Delta. It is common in the Sacramento and San Joaquin valleys in river oxbows and other areas on the flood plain, and occasionally along the Colorado River on the California-Arizona border. It is now much reduced in area throughout its range (Holland 1986). This vegetation community characteristically forms a dense vegetative cover dominated by perennial, emergent monocots 1-15 feet high that reproduce by underground rhizomes.

On site, freshwater marsh vegetation is found near the downstream end of the study area, where the gravel and sandbars are shallowly inundated or saturated at the surface. Vegetation consists chiefly of low-growing emergent species dominated by the native species water cress. Other native species present are small-fruited bulrush (*Scirpus microcarpus*), short-spiked hedge nettle (*Stachys pycnantha*), sneezeweed (*Helenium puberulum*), common nut-sedge (*Cyperus eragrostis*), northern willow herb (*Epilobium ciliatum* ssp. *ciliatum*), hoary nettle (*Urtica dioica* ssp. *holosericea*), iris-leaved rush (*Juncus xiphioides*), spearmint (*Mentha spicata*), and Himalayan blackberry. A few small saplings of arroyo willow (*Salix lasiolepis*) were also present within freshwater marsh on site.

Scattered individuals of several species were noted within the gravel and the sandbars of the stream channel bottom, but never more than as individuals or very small clumps. These include water cress, whorled dock (*Rumex conglomeratus*), short-spiked hedge nettle, white sweetclover (*Melilotus alba*), and swamp grass (*Crypsis schoenoides*). These areas were considered too small to be mapped, but all fall within the limits of ordinary high water within the active stream channel, where the water table is seasonally near the surface of the alluvial sand and gravel.

3.2 Soils

A single soil unit, Pleasanton gravelly loam, 2 to 9 percent slopes, is mapped as occurring within the study area. This unit is described in more detail below. Soils mapped on immediately adjacent lands are Azule silty clay loam, 9 to 15 percent slopes, eroded (USDA 1968).

Pleasanton

The Pleasanton series consists of well-drained soils, having moderately fine textured subsoils, underlain by old, gravelly sedimentary alluvium. These soils formed on nearly level to moderately steep fans and terraces. Elevations range from 200 to 1,000 feet above sea level. Mean annual rainfall is 16-20 inches, the mean annual air temperature is 58-60° F, and the annual growing season ranges from about 260-300 days. Vegetation consists chiefly of annual grasses and forbs with scattered oak trees. Soils of the Pleasanton series are classified as Mollic Haploxeralfs (USDA 1968, 1974).

The specific mapping unit occurring on site is Pleasanton gravelly loam, 2 to 9 percent slopes. Included in this soil unit are areas of Hillgate and Arbuckle soils. Pleasanton gravelly loam, 2 to 9 percent slopes, has a moderately slow permeability and run-off is slow to medium. The hazard of erosion is slight to moderate. This soil is not classified as hydric (USDA 1989, 1991).

Soils observed within the channel bottom of Adobe Creek consist of light brown, moderately coarse sand with scattered pebbles, and are obviously alluvial deposits of recent origin.

3.3 Hydrology

Hydrology of the Adobe Creek Upper Reach 5 study area is influenced by direct precipitation, headwater flows, backwater flooding, seasonal ponding, and surface runoff from surrounding areas. The dominant hydrological feature within the study area is Adobe Creek, which originates on Monte Bello Ridge on the northeasterly slopes of the Santa Cruz Mountains. The watershed encompasses approximately ten square miles. The drainage is intermittent in nature, and generally only flows during the rainy season. Tributary water is directed into the main creek channel in the downstream half of the study area via the Robleda Storm Drain, a 60-inch concrete culvert. Smaller drainpipes associated with adjacent residential development also contribute seasonal precipitation or urban runoff directly into the creek channel. Near the downstream end of the study area, the channel bottom intercepts a high water table, and shallow standing water and soils saturated at the surface are present. Adobe Creek flows generally easterly and northerly for more than 14 miles from its headwaters through the Town of Los Altos Hills and the cities of Los Altos, Mountain View, and Palo Alto before joining Barron Creek and flowing from the Palo Alto Flood Basin into Charleston Slough and San Francisco Bay approximately six miles north of the study area.

4.0 METHODS

Sycamore biologist Christopher Thayer conducted a formal wetland delineation and preliminary jurisdictional determination on October 18, 2005. The site was revisited on October 25 and fieldwork completed on November 16, 2005.

A routine wetland delineation and preliminary jurisdictional determination was performed in accordance with the procedures outlined in the U.S. Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987). Based on topography and the presence or absence of field indicators including vegetation, hydrology, and soils, the limits of potentially jurisdictional waters of the U.S. were determined. The extent of potential wetlands and waters of the U.S. were mapped on a 1:500 scale topographic map (Figure 3). A black and white aerial photograph (scale 1:500, flown April 2005) was reviewed to aid in mapping. Data on vegetation, soils, and hydrology were taken at a total of five sample points within the study area (Figure 3). Data forms for these sample points are included with this report in Attachment A.

The limits of "state waters" as defined by the California Fish and Game Code Sections 1600 to 1607 and the Porter-Cologne Act were mapped as either top of bank of the high flow channel or the drip-line of the fringing riparian woodland, where present, whichever was greater.

The study area was defined by the project engineer and includes portions of a number of private properties and a public drainage easement. The boundaries of the study area are indicated in Figure 3.

5.0 RESULTS

5.1 General Description of Wetland Habitat

As defined by the U.S. Army Corps of Engineers, field indicators of three wetland parameters (hydric soils, hydrophytic vegetation, and wetlands hydrology) must be present for a site to be classified as a wetland (Environmental Laboratory 1987). A brief discussion of each of the three wetland parameters is presented below. A map of aquatic features at Adobe Creek Upper Reach 5, including wetlands, is presented in Figure 3.

5.2 Wetland Determination and Delineation

5.2.1 Hydrophytic Vegetation

Hydrophytic vegetation includes those plant species that possess physiological features or reproductive adaptations that allow them to persist in soils subject to prolonged inundation and anaerobic soil conditions. Plant species are classified by their probability of being associated with wetlands or uplands. Obligate (OBL) species almost always (greater than 99 percent of the time) occur in wetlands. Facultative Wetland (FACW) species occur in wetlands 67-99 percent of the time. Facultative (FAC) species have an equal probability 34-66 percent to occur in wetlands. Facultative Upland (FACU) and Obligate Upland (UPL) species occur in wetlands 1-33 percent and less than 1 percent of the time, respectively. For a sample point to meet this criterion, more than 50 percent of the dominant plant species in each of the strata must be OBL, FACW, or FAC indicator species.

All plant species within the study area were identified and their wetland indicator status noted; the wetland indicator status of each was obtained from the National List of Plant Species that Occur in Wetlands, Region 0, California (Reed 1988). Dominant plant species were determined using the "50/20 Rule". The wetland indicator status of the most common species detected within and adjacent to potential wetlands is provided in Table 1. Vegetation at data sample points No. 1 and No. 2 was found to meet the hydrophytic vegetation criterion (Table 2).

5.2.2 Hydric Soils

Hydric soils include non-drained organic soils, mineral soils with a high water table, ponded soils, and flooded soils. Characteristic field indicators of hydric soils include the presence of a histic epipedon, the presence of sulfidic material, the presence of an aquic or peraquic moisture regime, reducing soil conditions, soil color (including gleyed soils or soils with a low matrix chroma, with or without bright mottles), iron or manganese concretions, and soils listed as hydric by the U.S. Department of Agriculture. Soils information was compared with the Santa Clara County soil survey (USDA 1968).

Table 1. Wetland Indicator Status of Common Plant Species Detected Within and Adjacent to Wetlands in the Study Area

Scientific Name	Common Name	Indicator Status
Cirsium vulgare[1]	bull thistle	FACU
Conium maculatum[1]	poison hemlock	FACW
Crypsis schoenoides[1]	swamp grass	OBL
Cyperus eragrostis	umbrella sedge	FACW
Echinochloa crus- galli[1]	barnyard grass	FACW
Epilobium ciliatum	northern willow herb	FACW
Equisetum arvense	common horsetail	FAC
Helenium puberulum	sneezeweed	FACW
Hirschfeldia incana[1]	hoary mustard	not listed
Juglans californica var. *hindsii*	Northern California black walnut	FAC
Juncus xiphioides	iris-leaved rush	OBL
Lactuca serriola[1]	prickly lettuce	FAC
Lolium multiflorum[1]	Italian ryegrass	FAC*
Malva nicaeensis[1]	bull mallow	not listed
Mentha spicata var. *spicata*[1]	spearmint	OBL
Picris echioides[1]	bristly ox-tongue	FAC*
Piptatherum miliaceum[1]	smilo grass	not listed
Polypogon monspeliensis[1]	rabbitfoot grass	FACW+
Quercus agrifolia	coast live oak	not listed
Rorippa nasturtium-aquaticum	water cress	OBL
Rubus discolor[1]	Himalaya blackberry	FACW*
Rumex conglomeratus[1]	whorled dock	FACW
Rumex crispus[1]	curly dock	FACW-
Salix lasiolepis	arroyo willow	FACW
Sambucus mexicana	blue elderberry	FAC
Scirpus microcarpus	small fruited bulrush	OBL
Stachys pycnantha	short-spiked hedge nettle	FACW
Urtica dioica ssp. *holosericea*	stinging nettle	FACW
Xanthium strumarium	cocklebur	FAC+

[1] indicates non-native species

Table 2. Summary of Upland and Wetland Sampling Point Mandatory Criteria within SCVWD Adobe Creek Upper Reach 5

Soil Pit No. and Mandatory Criterion Met (Yes or No)	1	2	3	4	5
Hydrophytic Vegetation	Yes	Yes	No	No	No
Hydrology	Yes	No	No	Yes	No
Soils	Yes	No	No	Yes	No
Is the Sampling Point Within a Wetland (Yes or No)?	Yes	No	No	No*	No

Sampling points are shown on Figure 3.

***Sample point #4 is not within a wetland because the vegetation criterion was not met, however the location is within the jurisdiction of the U.S. Army Corps of Engineers because it falls within the limits of ordinary high water.**

During the field reconnaissance, the soil at four sample points was examined to a depth of at least 12 inches. Soils at data point No. 2 were examined only at the surface. At data point No. 1, soils were presumed to be hydric based on the presence of obvious hydrology (saturated/inundated at the surface) and an overall dominance of strongly hydrophytic vegetation (Table 2).

5.2.3 Wetland Hydrology

For the hydrology parameter to be met a site must be seasonally inundated or saturated for at least 12.5 percent of the growing season; areas inundated or saturated for 5-12.5 percent of the growing season might or might not meet the parameter.

Primary field indicators of wetland hydrology include visual observation of inundation or saturation, watermarks, drift and debris lines, sediment deposits, and drainage patterns. Secondary indicators include oxidized root channels, water stained leaves, local soil survey data, and the FAC-neutral test, among others. At data point No. 1, wetland hydrology was indicated by saturation at the soil surface and by nearby inundation by shallow, standing water. The location was within the channel of Adobe Creek and within the limits of "ordinary high water" as evidenced by a clear scour line and drift debris on opposite banks of the channel. At data point No. 1, saturated soils were encountered at a depth of eight inches. Data point No. 4 was also within the limits of ordinary high water in the channel of Adobe Creek, however standing water or saturation were not encountered in the upper 18 inches of the soil profile (Table 2).

5.2.4 Preliminary Findings

Based upon this preliminary delineation, the study area supports a total of 0.35 acre (15,306 square feet; 1,263 linear feet) of potential U.S. Army Corps of Engineers jurisdictional wetlands and other waters of the U.S. This includes 0.05 acre (2,310 square feet; 190 linear feet) of freshwater marsh and 0.30 acre (12,996 square feet; 1,073 linear feet) of unvegetated waters. There were no waters of the U.S. found in the staging areas at Edith Park, behind the Rogez Property, or along the access routes from West Fremont Road.

State waters, as defined by the California Fish and Game Code and the Porter-Cologne Act and regulated by the California Department of Fish and Game and Regional Water Quality Control Board, were also identified. These were mapped as either top of bank of the high flow channel or the drip-line of the fringing riparian canopy. In an effort to distinguish between relative habitat values, native and non-native canopy cover was mapped separately. A further distinction was made for non-native canopy with a hardscape understory. For the Adobe Creek Upper Reach 5 study area, Porter-Cologne waters were identical to the area falling under the jurisdiction of the California Department of Fish and Game in accordance with Sections 1600 to 1607 of California Fish and Game Code.

A summary of the totals of each type of potentially jurisdictional wetlands and waters is presented in Table 3. The location and extent of wetlands and other waters found on site are illustrated in Figure 3.

Table 3. Summary of Potential Wetlands and Other Waters of the U.S. within SCVWD Adobe Creek Upper Reach 5

Resource	Area in Acres and Square Feet; Distance in Feet
Potential Waters of the U.S.	
Unvegetated Waters of the U.S.	0.30 acre (12,996 square feet); 1,073 linear feet
Wetland (Freshwater Marsh)	0.05 acre (2,310 square feet); 190 linear feet
Total Potential Federal Jurisdictional Wetlands and Other Waters of the U.S.	0.35 acre (15,306 square feet); 1,263 linear feet
Potential Waters of the State	
Area Within Top of Bank (Includes All Waters of the U.S.)	0.77 acre (33,495 square feet)
Native Riparian Canopy (Measured Outside Top of Bank)	0.14 acre (6,127 square feet)
Non-Native Riparian Canopy (Measured Outside Top of Bank)	0.77 acre (33,580 square feet)
Non-Native Riparian Canopy With Hardscape Understory (Measured Outside Top of Bank)	0.03 acre (1,248 square feet)
Total Potential California Department of Fish & Game Section 1600 Waters, Equivalent to Porter-Cologne Waters	1.71 acres (74,450 square feet)

5.3 Wetland Functions and Values

A functional assessment of the existing wetlands, waters, and habitats is presented below, based upon earlier work (H. T. Harvey & Associates 1998 [revised 2001]).

5.3.1 Native Species Diversity and Habitat Abundance

An earlier functional valuation of the West Edith Channel Modification Site (equivalent to the Adobe Creek Upper Reach 5 project area) reported that habitat abundance, specifically riparian habitat, was constrained by artificial surfaces and erosion control bank protective structures (H. T. Harvey & Associates 1998 [revised 2001]). The 2005 biological surveys confirm earlier work (Habitat Restoration Group 1989) that Reach 5 has a lower habitat diversity and abundance than the reaches farther upstream. On the basis of these studies the native species diversity and habitat abundance has a low value (a high value would be equivalent to the species and habitat situation in the upper reaches of neighboring Stevens Creek).

5.3.2 Wildlife Species Diversity and Abundance

A previous functional evaluation reported that blackberry thickets lining the creek provided some cover for nesting birds and small mammals. While not specifically a "wetland," plant community, large ornamental landscape trees in the study area offered habitat for nesting raptors and birds and shade the channel (H. T. Harvey & Associates 1998 [revised 2001]). Based upon a comparison with the upper reaches of Adobe Creek studied by The Habitat Restoration Group (Habitat Restoration Group 1989), and neighboring Stevens and San Francisquito creeks (which have high wildlife species diversity and abundance), a "low" value is assigned to Reach 5 of Adobe Creek.

5.3.3 Aquatic Habitat and Wildlife Movement Corridors

Leidy *et al.* (2005) provide a recent assessment of aquatic habitat and the fisheries movement corridor of Adobe Creek to supplement the earlier study of the area (Habitat Restoration Group 1989). Flood control projects in the Adobe Creek watershed have drastically reduced fish habitat that once existed there, and present impassable barriers to migrating fish (Leidy *et al.* 2005). The Leidy *et al.* report concludes that operations of the tidal gates at the mouth of Adobe Creek (presumably also including Barron Creek) may prevent upstream migration of anadromous fish from San Francisco Bay. While invertebrate fauna occur in Adobe Creek Reach 5, and stream fish (but not salmonids) are known (Habitat Restoration Group 1989), the fact that barriers exist to upstream migration by anadromous salmonid fishes indicates a "low" aquatic habitat and wildlife movement corridor value is assigned to Reach 5 of Adobe Creek.

6.0 DISCUSSION

6.1 Project Impacts

Direct impacts including both permanent and temporary impacts to waters of the U.S. and waters of the State for the proposed project are presented in the Biological Resources Report (Sycamore Associates 2007).

6.2 Regulatory Requirements

Riparian areas, wetlands, waters of the U.S., waters of the State, and special-status species and communities are considered sensitive biological resources and fall under the jurisdiction of several state and federal regulatory agencies. Impacts to these areas often require federal, state, and/or local permits, depending on the type and extent of project impacts. However, prior to the issuance of any permit for actions that would result in impacts to wetlands, waters, or special-status species or communities, notification to all or some of the following agencies is likely to be required:

6.2.1 Federal Jurisdiction – United States Army Corps of Engineers

Section 404 of the Clean Water Act of 1972 regulates activities that result in the discharge of dredged or fill material into waters of the U.S., including wetlands. The primary intent of the Clean Water Act is to authorize the United States Environmental Protection Agency to regulate water quality through the restriction of pollution discharges, which includes sediments. The U.S. Army Corps of Engineers has the principal authority to regulate discharges of dredged or fill material into waters of the U.S. However, the United States Environmental Protection Agency has oversight authority over the U.S. Army Corps of Engineers and retains veto power over the U.S. Army Corps of Engineer's decision to issue permits.

Waters of the U.S. include: 1) all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of tide; 2) all interstate waters including interstate wetlands; 3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce; 4) tributaries of the above; and 5) territorial seas.

Federal jurisdictional wetlands are defined as those areas that are inundated or saturated by surface water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, bogs, vernal pools, seeps, marshes, and similar areas.

Because of the recent Supreme Court decision in *Solid Waste Agency of Northern Cook County* v. *U.S. Army Corps of Engineers* decision, the U.S. Army Corps of Engineers no longer takes jurisdiction over "isolated" wetlands and waters. The U.S. Army Corps of Engineers does take jurisdiction over "adjacent wetlands," which are hydrologically connected to navigable waters or tributaries of navigable water, even if such wetlands appear to be otherwise "isolated." In response to the federal agency not taking authority over the isolated wetlands, the Regional Water Quality Board takes authority over "waters of the State." Therefore, the result is that all wetlands and waters in California are regulated by the U.S. Army Corps of Engineers and the Regional Water Quality Board. In creek or river systems, the Regional Water Quality Board takes jurisdiction similar to the California Department of Fish and Game, from top of bank to top of bank. Many applicants have misunderstood the *Solid Waste Agency of Northern Cook County* v. *U.S. Army Corps of Engineers* decision, especially in the context of the State's authority and the ability of the U.S. Army Corps of Engineers to take jurisdiction over "adjacent wetlands."

Any discharge of dredged or fill material into waters of the U.S. must be approved by the U.S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act. Two permit types are possible:

1) Individual Permits; or

2) Nationwide Permits, which cover specific categories of activities. Nationwide Permits are generally less time-consuming than the Individual Permit. Nationwide Permits may be grouped together or "stacked" with certain limitations.

For residential, commercial, and institutional development projects a standard Individual Permit is required if there are:

1) Discharges that will result in the fill of any tidal waters or wetlands; or

2) Impacts to more than one-half acre of non-tidal waters or wetlands, and/or impacts to greater than 300 linear feet of non-tidal waters or wetlands, including creeks (either perennial intermittent or intermittent), arroyos or vegetated and unvegetated tributaries.

In contrast, such projects that result in impacts of less than one-half acre and/or less than 300 linear feet may be authorized under one of the existing U.S. Army Corps of Engineers Nationwide Permits if they meet all of the Nationwide Permit General Conditions.

Possible candidate Nationwide Permits for the Adobe Creek Upper Reach 5 Project include Nationwide Permit 13 "Bank Stabilization," Nationwide Permit 27 "Stream and Wetland Restoration Activities," Nationwide Permit 31 "Maintenance of Existing Flood Control Facilities," and Nationwide Permit 33 "Temporary Access and Dewatering."

Regardless of the permits required, careful project design and efforts to avoid and minimize impacts to special-status species and wetland resources will streamline the permitting process and significantly improve the likelihood of rapid project approval.

6.2.2 State Jurisdiction - California Department of Fish and Game

The California Department of Fish and Game exercises jurisdiction over wetland and riparian resources associated with rivers, streams, and lakes under California Fish and Game Code Sections 1600 to 1607. The California Department of Fish and Game has the authority to regulate work that will:

1) Divert, obstruct, or change the natural flow of a river, stream, or lake.

2) Change the bed, channel, or bank of a river, stream, or lake.

3) Use material from a streambed.

The California Department of Fish and Game asserts that its jurisdictional area along a river, stream, or creek is usually bounded by the top of bank, or the outermost edges of riparian vegetation. Typical activities regulated by California Department of Fish and Game under Sections 1600-1607 authority include installing outfalls, stabilizing banks, creek restoration, implementing flood control projects, constructing river and stream crossings, diverting water, damming streams, gravel mining, logging operations and jack-and-boring.

Careful project design, including the minimization of impacts and reduction of hard structure surface area (*i.e.*, minimal amounts of cement or rip rap), is critical for California Department of Fish and Game approval. The California Department of Fish and Game emphasizes the use of biotechnical or bioengineered creek-related components (emphasis on natural materials), sometimes in conjunction with hard materials that minimize the need for hard structures in creeks.

The Applicant would be required to obtain a Section 1600 Streambed Alteration Agreement from the California Department of Fish and Game for all improvements below top of bank (or from the drip-line of the native riparian canopy, whichever is greater).

6.2.3 State Jurisdiction - Regional Water Quality Control Board

Pursuant to Section 401 of the Clean Water Act and EPA 404(b)(1) guidelines, in order for a U.S. Army Corps of Engineers federal permit applicant to conduct any activity which may result in discharge into navigable waters, they must provide a certification from the Regional Water Quality Control Board that such discharge will comply with the state water quality standards. The Regional Water Quality Control Board has a policy of no-net-loss of wetlands in effect and typically requires mitigation for all impacts to wetlands before it will issue water quality certification.

Under the Porter-Cologne Water Quality Control Act (Cal. Water Code §§13000-14920), the Regional Water Quality Control Board is authorized to regulate the discharge of waste that could affect the quality of the State's waters. Therefore, even if a project does not require a federal permit (*i.e.*, a Nationwide Permit from the U.S. Army Corps of Engineers), it may still require review and approval of the Regional Water Quality Control Board. In light of the approval of the new Nationwide Permits by the U.S. Army Corps of Engineers on March 9, 2000 and the *Solid Waste Agency of Northern Cook County* v. *U.S. Army Corps of Engineers* (SWANCC) decision. The Regional Water Quality Control Board in response to this, issued guidance for regulation of discharges to "isolated" water on June 25, 2004. The guidance states:

> Discharges subject to Clean Water Act section 404 receive a level of regulatory review and protection by the U.S. Army Corps of Engineers and are also subject to streambed alteration agreements issued by the California Department of Fish and Game; whereas discharges to waters of the State subject to SWANCC receive no federal oversight and usually fall out of California Department of Fish and Game jurisdiction. Absent of Regional Water Quality Control Board attention, such discharges will generally go entirely unregulated. Therefore, to the extent that staffing constraints require the Regional Water Quality Control Board to regulate some dredge and fill discharges of similar extent, severity, and permanence to federally-protected waters of similar value. Dredging, filling, or excavation of "isolated" waters constitutes a discharge of waste to Waters of the State, and prospective dischargers are required to submit a report of waste discharge to the Regional Water Quality Control Board and comply with other requirements of Porter-Cologne.

When reviewing applications, the Regional Water Quality Control Board focuses on ensuring that projects do not adversely affect the "beneficial uses" associated with waters of the State. Generally, the Regional Water Quality Control Board defines beneficial uses to include all of the resources, services, and qualities of aquatic ecosystems and underground aquifers that benefit the State. In most cases, the Regional Water Quality Control Board seeks to protect these beneficial uses by requiring the integration of water quality control measures into projects that will result in discharge into waters of the State. For most construction projects, the Regional Water Quality Control Board requires the use of construction and post-construction Best Management Practices. In many cases, proper use of Best Management Practices, including bioengineering detention ponds, grassy swales, sand filters, modified roof techniques, drains, and other features, will speed project approval from the Regional Water Quality Control Board. Development setbacks from creeks are also requested by the Regional Water Quality Control Board as they often lead to less creek-related impacts in the future.

To meet the Regional Water Quality Control Board standards for water quality protection as well as the broader jurisdiction generally asserted by them, it has become necessary to prepare a report addressing all hydrologic issues related to a project application. The report involves an analysis of pre-project watershed and water quality conditions (*e.g.*, before and after percent impervious surface analysis, before and after runoff analysis, design alternatives to address post-project changes in the watershed, and minimization of these changes Best Management Practices). Additionally, the report should include a discussion of impacts to waters of the State and biological resources and how the project avoided those impacts to the maximum extent feasible, stressed minimization of impacts and proposed mitigation for unavoidable impacts.

The Applicant would be required to obtain Section 401 Water Quality Certification for the proposed work in Adobe Creek from the San Francisco Regional Water Quality Control Board.

6.2.4 Federal Jurisdiction - United States Fish and Wildlife Service

The Federal Endangered Species Act prohibits "take" of federally-listed Threatened or Endangered species. The Federal Endangered Species Act defines "take" to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or attempt to engage in any such conduct" 16 U.S.C. §1532(19). The Federal Endangered Species Act requires that actions authorized, funded or carried out by federal agencies do not jeopardize the continued existence of a federally-listed species or adversely modify designated Critical Habitat for such species. If a federal agency determines that a proposed federal action (*i.e.*, issuance of a Clean Water Act Section 404 permit for wetland fill) "may affect" a listed species and/or designated Critical Habitat, the agency must consult with the U.S. Fish & Wildlife Service and/or National Marine Fisheries Service for protected marine and anadromous fish species in accordance with Section 7 of the Federal Endangered Species Act. If take of a federally-listed species may occur, the applicant may be required to obtain an Incidental Take Permit from the U.S. Fish & Wildlife Service. Such take authorization is available through the Section 7 consultation process for projects involving a federal action, or through the Section 10 process (requiring development of a Habitat Conservation Plan) for other projects. The Incidental Take Permit allows taking of federally-listed species if the take is "incidental to and not the purpose of, the carrying out of an otherwise lawful activity" 16 U.S.C. §1539(a)(1)(B).

The San Francisco District U.S. Army Corps of Engineers will likely initiate a Section 7 consultation with the National Marine Fisheries Service and the U.S. Fish & Wildlife Service regarding effects of the proposed project on steelhead, federally-listed Threatened and California red-legged frog, federally-listed Threatened.

If there is not federal funding or a federal action required for the project (*i.e.*, no permit required from the U.S. Army Corps of Engineers for fill of wetlands), and the project is likely to affect a listed species, an applicant may receive authorization for incidental take under Section 10 of the Federal Endangered Species Act by preparing a U.S. Fish & Wildlife Service-approved Habitat Conservation Plan. However, if incidental take protection is needed for federally-listed species in both wetland and upland areas, the U.S. Army Corps of Engineers may elect to regulate only the wetland species, therefore requiring that the project be processed under a Habitat Conservation Plan.

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ATTACHMENT A

Wetland Delineation Field Data Forms

DATA FORM
ROUTINE WETLAND DELINEATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Adobe Creek Reach 5	Date: 10/25/05
Applicant / Owner: Santa Clara Valley Water District	County: Santa Clara
Investigator: Christopher Thayer, Sycamore Associates (925) 279-0580	State: California

Do normal circumstances exist?	YES	Community ID: Freshwater marsh
Is the site significantly disturbed (Atypical Situation)?	NO	Transect ID:
Is the area a potential Problem Area?	NO	Plot ID: Sample Point # 1

VEGETATION

Dominant Species Present[1]	% Cover[2]	Stratum	Indicator	Subdominant Species Present[3]	% Cover[2]	Stratum	Indicator
1. *Scirpus microcarpus*	40	herb	OBL	1. *Mentha spicata*	10	herb	OBL
2. *Rorippa nasturtium-aquaticum*	25	herb	OBL	2. *Urtica dioica*	10	herb	FACW
3.				3. *Salix lasiolepis*	5	tree	FACW
4.				4. *Epilobium ciliatum*	5	herb	FACW
5.				5. *Rubus discolor*	2	vine	FACW*
6.				6. *Cyperus eragrostis*	3	herb	FACW
7.				7.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 100% (2/2)

Remarks:
Criteria met.

[1]Dominance determined by the 50/20 Rule. [2]Estimated absolute cover. [3]Not considered for wetland determination.

HYDROLOGY

_ Recorded data (describe in remarks) X No recorded data available

Field Observations:

Depth of surface water: 0 (inches)
Depth to free water in pit: 8 (inches)
Depth to saturated soil: 0 (inches)

Wetland Hydrology Indicators Primary Indicators:

X Inundated
X Saturated in upper 12 inches
_ Water marks
_ Drift lines
X Sediment deposits
X Drainage pattern in wetlands

Secondary Indicators:

_ Oxidized root channels in upper 12 inches
_ Water-stained leaves
_ Local soil survey data
_ FAC neutral test
_ Other (see below)

Remarks: Criteria met. Standing water 1-2" deep within three feet of hole. Location is in stream channel, ordinary high water mark estimated to be 18' wide. Low portion in low flow channel is wet. Higher portion elevated ±12" above standing water is higher flow terrace on sand bar.

SOILS

Map unit name: Pleasanton gravelly loam, 2 to 9 percent slopes
Drainage Class: well-drained
(Series and Phase): Pleasanton
Soil type confirmed in field?: no
Taxonomy (Subgroup): Mollic Haploxeralfs

Profile Description:

Depth (inches)	Horizon	Matrix color (Munsell-moist)	Mottle colors (Munsell-moist)	Mottle (abundance size, contrast)	Soil texture, concretions, structure, etc.
0-12	A	10YR 3/2	n/a	n/a	Medium coarse sand

Hydric Soils Indicators:

- _ Histisol
- _ Histic epipedon
- _ Sulfidic odor
- _ Aquic moisture regime
- _ Reducing conditions
- _ Gleyed or low chroma colors
- _ Concretions
- X High organic content in surface layer in sandy soils
- _ Organic streaking in sandy soils
- _ Listed on local hydric soils list
- _ Listed on national hydric soils list
- _ Other (see below)

Remarks: Criteria met. Surface is medium coarse sand, light brown with some pebbles. Recent alluvial deposit in active stream channel.

WETLAND DETERMINATION

Hydrophytic vegetation present? YES
Wetland hydrology present? YES
Hydric soils present? YES
Is this sampling point within a wetland? YES

Remarks: Criteria met.

DATA FORM
ROUTINE WETLAND DELINEATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Adobe Creek Reach 5
Date: 10/25/05
Applicant / Owner: Santa Clara Valley Water District
County: Santa Clara
Investigator: Christopher Thayer, Sycamore Associates (925) 279-0580
State: California

Do normal circumstances exist? YES
Community ID: Ruderal vegetation
Is the site significantly disturbed (Atypical Situation)? NO
Transect ID:
Is the area a potential Problem Area? NO
Plot ID: Sample Point # 2

VEGETATION

Dominant Species Present[1]	% Cover[2]	Stratum	Indicator	Subdominant Species Present[3]	% Cover[2]	Stratum	Indicator
1. *Rubus discolor*	60	vine	FACW*	1. *Vinca major*	10	shrub	not listed
2. Bare ground	30			2.			
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 100% (1/1)

Remarks: Criteria met. Open vegetation on eroded stream bank.

[1] Dominance determined by the 50/20 Rule. [2] Estimated absolute cover. [3] Not considered for wetland determination.

HYDROLOGY

__ Recorded data (describe in remarks) X No recorded data available

Field Observations:

Depth of surface water: n/a (inches)
Depth to free water in pit: n/a (inches)
Depth to saturated soil: n/a (inches)

Wetland Hydrology Indicators Primary Indicators:

__ Inundated
__ Saturated in upper 12 inches
__ Water marks
__ Drift lines
__ Sediment deposits
__ Drainage pattern in wetlands

Secondary Indicators:

__ Oxidized root channels in upper 12 inches
__ Water-stained leaves
__ Local soil survey data
__ FAC neutral test
__ Other (see below)

Remarks: Criteria not met. Location is outside active stream channel and elevated above flow terrace by four feet. Outside of obvious high water mark.

SOILS

Map unit name: Pleasanton gravelly loam, 2 to 9 percent slopes

(Series and Phase): Pleasanton

Taxonomy (Subgroup): Mollic Haploxeralfs

Drainage Class: well-drained

Soil type confirmed in field?: no

Profile Description:

Depth (inches)	Horizon	Matrix color (Munsell-moist)	Mottle colors (Munsell-moist)	Mottle (abundance size, contrast)	Soil texture, concretions, structure, etc.

Hydric Soils Indicators:

- _ Histisol
- _ Histic epipedon
- _ Sulfidic odor
- _ Aquic moisture regime
- _ Reducing conditions
- _ Gleyed or low chroma colors
- _ Concretions
- _ High organic content in surface layer in sandy soils
- _ Organic streaking in sandy soils
- _ Listed on local hydric soils list
- _ Listed on national hydric soils list
- _ Other (see below)

Remarks: No pit dug, soil observed at the surface. Soil is exposed on bank ±4' above elevation of low flow terrace and outside obvious ordinary high water mark.

WETLAND DETERMINATION

Hydrophytic vegetation present? YES

Wetland hydrology present? NO

Hydric soils present? NO

Is this sampling point within a wetland? NO

Remarks: Criteria not met. Soil is light brown silty low mineral soil outside of active stream channel.

DATA FORM
ROUTINE WETLAND DELINEATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Adobe Creek Reach 5	Date: 11/16/05
Applicant / Owner: Santa Clara Valley Water District	County: Santa Clara
Investigator: Christopher Thayer, Sycamore Associates (925) 279-0580	State: California

Do normal circumstances exist?	YES	Community ID: Landscape/oak woodland
Is the site significantly disturbed (Atypical Situation)?	NO	Transect ID:
Is the area a potential Problem Area?	NO	Plot ID: Sample Point # 3

VEGETATION

Dominant Species Present[1]	% Cover[2]	Stratum	Indicator	Subdominant Species Present[3]	% Cover[2]	Stratum	Indicator
1. *Vinca major*	90	shrub	not listed	1. *Rosa* sp.	10	shrub	not listed
2.				2.			
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0% (0/1)

Remarks: Criteria not met.
Overstory vegetation: *Sambucus mexicana* 20% cover
Quercus agrifolia 10% cover
Juglans hindsii 70% cover

[1]Dominance determined by the 50/20 Rule. [2]Estimated absolute cover. [3]Not considered for wetland determination.

HYDROLOGY

_ Recorded data (describe in remarks) X No recorded data available

Field Observations:

Depth of surface water: 0 (inches)
Depth to free water in pit: ≥12 (inches)
Depth to saturated soil: ≥12 (inches)

Wetland Hydrology Indicators Primary Indicators:

_ Inundated
_ Saturated in upper 12 inches
_ Water marks
_ Drift lines
_ Sediment deposits
_ Drainage pattern in wetlands

Secondary Indicators:

_ Oxidized root channels in upper 12 inches
_ Water-stained leaves
_ Local soil survey data
_ FAC neutral test
_ Other (see below)

Remarks: Criteria not met. Terrace outside top of bank of Adobe Creek elevated ±15' above stream channel.

SOILS

Map unit name: Pleasanton gravelly loam, 2 to 9 percent slopes	Drainage Class: well-drained
(Series and Phase): Pleasanton	Soil type confirmed in field?: no
Taxonomy (Subgroup): Mollic Haploxeralfs	

Profile Description:

Depth (inches)	Horizon	Matrix color (Munsell-moist)	Mottle colors (Munsell-moist)	Mottle (abundance size, contrast)	Soil texture, concretions, structure, etc.
0-18	A	10YR 3/2	n/a	n/a	clay loam

Hydric Soils Indicators:

_ Histisol
_ Histic epipedon
_ Sulfidic odor
_ Aquic moisture regime
_ Reducing conditions
_ Gleyed or low chroma colors
_ Concretions
_ High organic content in surface layer in sandy soils
_ Organic streaking in sandy soils
_ Listed on local hydric soils list
_ Listed on national hydric soils list
_ Other (see below)

Remarks: Criteria not met.

WETLAND DETERMINATION

Hydrophytic vegetation present?	NO	Is this sampling point within a wetland?	NO
Wetland hydrology present?	NO		
Hydric soils present?	NO		

Remarks: Criteria not met.

DATA FORM
ROUTINE WETLAND DELINEATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Adobe Creek Reach 5	Date: 11/16/05
Applicant / Owner: Santa Clara Valley Water District	County: Santa Clara
Investigator: Christopher Thayer, Sycamore Associates (925) 279-0580	State: California

Do normal circumstances exist?	YES	Community ID: Unvegetated stream channel
Is the site significantly disturbed (Atypical Situation)?	NO	Transect ID:
Is the area a potential Problem Area?	NO	Plot ID: Sample Point # 4

VEGETATION

Dominant Species Present[1]	% Cover[2]	Stratum	Indicator	Subdominant Species Present[3]	% Cover[2]	Stratum	Indicator
1. unvegetated	100			1.			
2.				2.			
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0%

Remarks: Very sparse scattered water cress upstream 20 feet.

[1]Dominance determined by the 50/20 Rule. [2]Estimated absolute cover. [3]Not considered for wetland determination.

HYDROLOGY

_ Recorded data (describe in remarks) X No recorded data available

Field Observations:

Depth of surface water: 0 (inches)
Depth to free water in pit: ≥18 (inches)
Depth to saturated soil: ≥18 (inches)

Wetland Hydrology Indicators Primary Indicators:

_ Inundated
_ Saturated in upper 12 inches
X Water marks
_ Drift lines
_ Sediment deposits
_ Drainage pattern in wetlands

Secondary Indicators:

_ Oxidized root channels in upper 12 inches
_ Water-stained leaves
_ Local soil survey data
_ FAC neutral test
_ Other (see below)

Remarks: Criteria met. Location in bottom of stream channel. Adobe Creek within limits of ordinary high water mark. ±10' wide.

SOILS

Map unit name: Pleasanton gravelly loam, 2 to 9 percent slopes

(Series and Phase): Pleasanton

Taxonomy (Subgroup): Mollic Haploxeralfs

Drainage Class: well-drained

Soil type confirmed in field?: no

Profile Description:

Depth (inches)	Horizon	Matrix color (Munsell-moist)	Mottle colors (Munsell-moist)	Mottle (abundance size, contrast)	Soil texture, concretions, structure, etc.
0-18	A	10YR 2/2	n/a	n/a	Medium coarse sand and gravel

Hydric Soils Indicators:

_ Histisol
_ Histic epipedon
_ Sulfidic odor
_ Aquic moisture regime
_ Reducing conditions
_ Gleyed or low chroma colors
_ Concretions
_ High organic content in surface layer in sandy soils
_ Organic streaking in sandy soils
_ Listed on local hydric soils list
_ Listed on national hydric soils list
_ Other (see below)

Remarks: Soils within the stream channel bottom consist of recently deposited alluvium and are presumed to be developing hydric soil characteristics.

WETLAND DETERMINATION

Hydrophytic vegetation present? NO

Wetland hydrology present? YES

Hydric soils present? YES

Is this sampling point within a wetland? NO

Remarks: Sampling point is within waters of the U.S., but not a wetland.

DATA FORM
ROUTINE WETLAND DELINEATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Adobe Creek Reach 5	Date: 11/16/05
Applicant / Owner: Santa Clara Valley Water District	County: Santa Clara
Investigator: Christopher Thayer, Sycamore Associates (925) 279-0580	State: California

Do normal circumstances exist?	YES	Community ID: Upland ruderal vegetation
Is the site significantly disturbed (Atypical Situation)?	NO	Transect ID:
Is the area a potential Problem Area?	NO	Plot ID: Sample Point # 5

VEGETATION

Dominant Species Present[1]	% Cover[2]	Stratum	Indicator	Subdominant Species Present[3]	% Cover[2]	Stratum	Indicator
1. *Lactuca serriola*	40	herb	FAC	1. Unidentified seedling	18	herb	
2. *Hirschfeldia incana*	20	herb	not listed	2. *Malva nicaeensis*	10	herb	not listed
3.				3. *Picris echioides*	10	herb	FAC*
4.				4. *Lolium multiflorum*	2	herb	FAC*
5.				5.			
6.				6.			
7.				7.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 50% (1/2)

Remarks:

[1] Dominance determined by the 50/20 Rule. [2] Estimated absolute cover. [3] Not considered for wetland determination.

HYDROLOGY

__ Recorded data (describe in remarks) X No recorded data available

Field Observations:

Depth of surface water: 0 (inches)
Depth to free water in pit: ≥12 (inches)
Depth to saturated soil: ≥12 (inches)

Wetland Hydrology Indicators Primary Indicators:

__ Inundated
__ Saturated in upper 12 inches
__ Water marks
__ Drift lines
__ Sediment deposits
__ Drainage pattern in wetlands

Secondary Indicators:

__ Oxidized root channels in upper 12 inches
__ Water-stained leaves
__ Local soil survey data
__ FAC neutral test
__ Other (see below)

Remarks: On high terrace outside top of bank of Adobe Creek. No evidence of surface or subsurface hydrology.

SOILS

Map unit name: Pleasanton gravelly loam, 2 to 9 percent slopes
(Series and Phase): Pleasanton
Taxonomy (Subgroup): Mollic Haploxeralfs

Drainage Class: well-drained
Soil type confirmed in field?: no

Profile Description:

Depth (inches)	Horizon	Matrix color (Munsell-moist)	Mottle colors (Munsell-moist)	Mottle (abundance size, contrast)	Soil texture, concretions, structure, etc.
0-12	A	10YR 3/3	n/a	n/a	Gravely clay loam

Hydric Soils Indicators:

- _ Histisol
- _ Histic epipedon
- _ Sulfidic odor
- _ Aquic moisture regime
- _ Reducing conditions
- _ Gleyed or low chroma colors
- _ Concretions
- _ High organic content in surface layer in sandy soils
- _ Organic streaking in sandy soils
- _ Listed on local hydric soils list
- _ Listed on national hydric soils list
- _ Other (see below)

Remarks: Small concrete chunks at 6" suggest fill

WETLAND DETERMINATION

Hydrophytic vegetation present? NO
Wetland hydrology present? NO
Hydric soils present? NO

Is this sampling point within a wetland? NO

Remarks:

APPENDIX I

Tree Removal List

Adobe Creek Reach 5, City of Los Altos and Town of Los Altos Hills

Tree No.	Survey No.	Property Owner	Scientific Name	Species	Trunk Diameter	dbh1	dbh2	dbh3	dbh4	Condition	Suitability for Preservation	Comments
242	6213	Echerd	*Sequoia sempervirens*	Coast redwood	9					1	Poor	Main trunk is dead. Sprout from base is alive (5.1 inches at dbh).
244	6214	Echerd	*Sequoia sempervirens*	Coast redwood	11					3	Poor	Close to edge of bank; concrete at base of trunk; one-sided to creek.
286	6305	Van Horne	*Sambucus mexicana*	Elderberry	7					3	Poor	Untagged; mid-bank; exposed roots.
321	6383	Moos	*Populus nigra 'Italica'*	Lombardy poplar	7					4	Moderate	Root sprout of #322; tagged low on creek side.
322	6382	Moos	*Populus nigra 'Italica'*	Lombardy poplar	6					3	Poor	Sprout off of cut stump.
324	6239	Rogez	*Sequoia sempervirens*	Coast redwood	42	26	16			4	Good	Co-dominant trunks at base; good form; thin canopy.
345	6278	Moos	*Phoenix canariensis*	Canary Island date palm	36					5	Good	Small plant; healthy.
501	6073	Astiz	*Juglans californica var. hindsii*	Northern California black walnut	6.5					4	Moderate	Thin canopy; heading pruning cuts; dead codominant trunk
502	6074	Astiz	*Eucalyptus globulus*	Blue gum	47.5					4	Poor	Top broken off at 25' and splits into 4 leaders; poor structure.
503	6087	Astiz	*Acacia melanoxylon*	Blackwood acacia	13.6					3	Poor	Broken leader; branch is now leader; missing large strips of bark
504	6088	Astiz	*Acacia melanoxylon*	Blackwood acacia	16.4					3	Poor	Co-dominant leaders from base;included bark; broken branches; missing bark
505	6086	Astiz	*Sequoia sempervirens*	Coast redwood	21.3	9.1	12.2			4	Moderate	Co-dominant from base; full canopy; in grove with #506.
506	6086*	Astiz	*Sequoia sempervirens*	Coast redwood	27.3	6.4	6.2	10.2	4.5	4	Moderate	Multiple stems from base; poor structure; full canopy.
507	6093	Astiz	*Acacia melanoxylon*	Blackwood acacia	11.1	5.2	5.9			4	Moderate	Co-dominant leaders from just below ground; healthy foliage.
508	6102	Astiz	*Eucalyptus globulus*	Blue gum	44.2					4	Good	2' from wall edge; good form; large tree.
509	6096	Astiz	*Platycladus orientalis*	Oriental arborvitae	10.4					4	Moderate	Leaning toward road; one-sided canopy; shrub-like.
510	6097	Astiz	*Platycladus orientalis*	Oriental arborvitae	11.3					5	Good	Symmetric canopy; healthy vigorous foliage.
511	6109	Astiz	*Acacia melanoxylon*	Blackwood acacia	9.1	4.2	4.9			4	Moderate	Co-dominant from below ground; vigorous growth.
512	6110	Astiz	*Platycladus orientalis*	Oriental arborvitae	11					3	Moderate	Thin canopy; shaded by Blackwood acacias; brown foliage.
513	6108	Astiz	*Acacia melanoxylon*	Blackwood acacia	10.4	5.7	4.7			3	Moderate	Co-dominant leaders at 1'; full crown.
514	6103	Astiz	*Eucalyptus globulus*	Blue gum	34.8					2	Poor	Thin canopy; leaning heavily to west.
522	6124	Astiz	*Acacia melanoxylon*	Blackwood acacia	6.7					4	Good	Good form; single leader; healthy and young tree.
523	6178	Astiz	*Eucalyptus globulus*	Blue gum	45.6					1	Poor	Has been headed at 6', 3 thin sprouts present 40' tall; poor form.
524	6179	Astiz	*Eucalyptus globulus*	Blue gum	27.1					1	Poor	Has been headed at 6', several thin sprouts present; poor form.
525	6198	Astiz	*Eucalyptus globulus*	Blue gum	35.6					4	Good	Good central leader; slightly thin canopy.
526	6197	Rogez	*Eucalyptus globulus*	Blue gum	16.2					2	Poor	Leaning heavily to south over road; assymetric crown.
527	6196	Rogez	*Eucalyptus globulus*	Blue gum	35.7					4	Good	Good central leader; slightly assymetric crown.
528	6195	Rogez	*Eucalyptus globulus*	Blue gum	27.8					3	Moderate	Asymmetric crown.
529	6180	Rogez	*Eucalyptus globulus*	Blue gum	14	3.2	7.5	3.3		1	Poor	Large stump cut at 2.5'; 3 thin sprouts present.
530	6192	Rogez	*Eucalyptus globulus*	Blue gum	21.3	6.3	3.3	3.5	8.2	1	Poor	Large stump cut at 1.5'; 3 thin sprouts present.
531	6191	Rogez	*Eucalyptus globulus*	Blue gum	13.4	5	4	4.4		1	Poor	Large stump cut at 1'; 3 thin sprouts present; thin canopy; dead branches
532	6190	Rogez	*Eucalyptus globulus*	Blue gum	29.4					3	Moderate	Co-dominant leaders at 15'; assymetric crown.
533	6189	Rogez	*Eucalyptus globulus*	Blue gum	15.5					3	Moderate	Co-dominant leaders at 15'; assymetric crown; wound from embedded wire.
534	6184	Rogez	*Eucalyptus globulus*	Blue gum	39.9					3	Moderate	Co-dominant leaders at 15'; full canopy.
535	6183	Rogez	*Juglans californica var. hindsii*	Northern California black walnut	13.7					4	Moderate	Leader ends at 10' and five equal sized branches begin; some dieback in crown.
536	6240	Rogez	*Umbellularia californica*	California bay	16.8	7.5	3.3	6		3	Moderate	Multiple trunks from base; assymetric crown; dieback on small branches;
537	6242	Rogez	*Aesculus californica*	California buckeye	6.9					4	Good	Healthy; slightly assymetric crown; leaning slightly.
538	6243	Rogez	*Quercus agrifolia*	Coast live oak	7.4					3	Moderate	Very thin canopy; assymetric crown; branch dieback

Tree No.	Survey No.	Property Owner	Scientific Name	Species	Trunk Diameter	dbh1	dbh2	dbh3	dbh4	Condition	Suitability for Preservation	Comments
539	-	Rogez	*Umbellularia californica*	California bay	20.3	9.7	10.6			3	Moderate	Very thin canopy; branch dieback; suppressed
540	6247	Rogez	*Ligustrum lucidum*	Glossy privet	19.6	9.3	10.3			3	Moderate	Co-dominant from 4'; included bark present; suppressed by palm
541	6244	Rogez	*Ligustrum lucidum*	Glossy privet	8.6					2	Poor	Large broken branch; very thin crown; poor form; suppressed.
542	6245	Rogez	*Eucalyptus globulus*	Blue gum	14.8					4	Moderate	Large central leader; thin canopy due to shading.
543	6246	Rogez	*Quercus agrifolia*	Coast live oak	9.2					3	Moderate	Suppressed; assymetric crown; dieback on large branch.
544	6248	Rogez	*Phoenix canariensis*	Canary Island date palm	31.8					5	Good	Healthy, excellent tree; full canopy.
545	6250	Rogez	*Eucalyptus globulus*	Blue gum	27.7					1	Poor	Stump cut at 15'; decay present; 4 thin sprouts from cut.
546	6251	Rogez	*Eucalyptus globulus*	Blue gum	22.4					2	Poor	Headed at 15' with 3 sprouts; leaning slightly.
547	6252	Rogez	*Eucalyptus sideroxylon*	Red ironbark	10.5					2	Poor	Severe lean towards house; very thin canopy.
548	6253	Rogez	*Ligustrum lucidum*	Glossy privet	8.2					3	Moderate	Co-dominant leaders at 6'; crown fairly full; some branch dieback.
549	6254	Rogez	*Eucalyptus sideroxylon*	Red ironbark	10.1					2	Poor	Severe lean; branch tip dieback; poor form.
550	6255	Rogez	*Sambucus mexicana*	Elderberry	14.5	5.6	4	4.9		2	Poor	Severe lean; suppressed; very thin canopy.
551	6257	Rogez	*Eucalyptus globulus*	Blue gum	14.7	6.5	8.2			3	Moderate	Multiple leaders; thin crown.
552	6259	~~Moos~~ Rogez	*Eucalyptus globulus*	Blue gum	31.9	9.6	10.1	12.2		3	Moderate	Multiple leaders; thin crown.
553	6283	~~Moos~~ Rogez	*Ligustrum lucidum*	Glossy privet	10.1					3	Moderate	Thin crown; some branch dieback; crossing branches.
554	6284	~~Moos~~ Rogez	*Quercus agrifolia*	Coast live oak	10.9					4	Good	Slightly assymetric canopy; healthyleaves; strong single leader.
555	6281	~~Moos~~ Rogez	*Ligustrum lucidum*	Glossy privet	7.8					3	Moderate	Thin canopy; suppressed.
556	6280	~~Moos~~ Rogez	*Ligustrum lucidum*	Glossy privet	15.4	3.8	4	2.8	4.8	2	Poor	Dieback present; multitrunked from base.
557	6279	~~Moos~~ Rogez	*Ligustrum lucidum*	Glossy privet	10.6	5.3	5.3			2	Poor	Included bark present; multitrunked from base.
558	6285	~~Moos~~ Rogez	*Quercus agrifolia*	Coast live oak	11.5					3	Moderate	Asymmetric crown; damage to trunk where fence wrapps around it; leaning.
559	6277	~~Moos~~ Rogez	*Eucalyptus globulus*	Blue gum	55.3					4	Good	Good form; healthy; too close to adjacent palm tree.
591	-	Moos	*Populus nigra 'Italica'*	Lombardy poplar	7.4					4	Moderate	Healthy young tree; invasive root system.
604	-	Remmel	*Aesculus californica*	California buckeye	9.1	4.1	5			2	Poor	Poor form; coming out of bank slope; roots exposed; 2 main trunks.
605	6296	Remmel	*Juglans californica var. hindsii*	Northern California black walnut	18.5	4	4	4	3	2	Poor	Stump cut with 5 stems, all radiating from stump; poor from.
620	-	Lemp/Millar	*Eucalyptus globulus*	Blue gum	6.9					1	Poor	Group of sprouts in middle of channel all smaller than 6"; poor form.
627	-	Rogez	*Sambucus mexicana*	Elderberry	12, 9					1	Poor	Leaning horizontally over creek; very few leaves; covered in ornamental vine.

APPENDIX J

Email from Town of Lost Altos Hill Regarding Heritage Oak

From: Jason Christie
Sent: Friday, January 12, 2007 10:08 AM
To: Kristen O'Kane
Subject: FW: Adobe Creek Project - Heritage Tree.

-----Original Message-----
From: Debbie Pedro [mailto:dpedro@losaltoshills.ca.gov]
Sent: Friday, January 12, 2007 9:38 AM
To: Jason Christie
Subject: Adobe Creek Project - Heritage Tree.

Jason,

Thank you for contacting the Planning Department regarding the removal of one (1) heritage oak tree adjacent to Adobe Creek at 25679 W. Fremont Road. The subject oak is located within the creek widening area of the Adobe Creek Upper Reach 5 project. Pursuant to Section 12-2.305.b of the Los Altos Hills Municipal Code, you can proceed to remove it from the property. Please do not hesitate to contact us if you have any questions regarding this matter.

Debbie Pedro, AICP
Senior Planner
Town of Los Altos Hills
Phone: (650) 947-2504
Fax: (650) 941-3160

APPENDIX K

Mitigation Monitoring and Reporting Program

Mitigation Measure Name and Description	Timing	Implementation Responsibility	Fiscal Responsibility	Monitoring Responsibility
BIO-1: Replant riparian habitat - Plant ~~0.96~~ 0.76 acres of appropriate native riparian trees and shrubs on-site. Bank protection plantings and trees will be replanted with locally collected seeds or seedlings grown from locally collected seeds. Riparian plantings shall be in accordance with the District's revegetation guidelines. Additional trees will be planted behind (south of) the row of trees categorized as "tentatively recommended for preservation" on property APN 175-25-068 to mitigate for the possible loss of these trees in the future as a result of construction. Trees will be monitored annually for ten years or until the success criteria outlined in mitigation measure BIO-2 and the Mitigation, Monitoring Plan are met.	Immediately following construction	SCVWD	SCVWD	SCVWD
BIO-2: Success criteria – Trees will be monitored annually for ten years or until the success criteria are met. Success criteria will include survival, health and vigor, and percent cover.	Ten years following revegetation	SCVWD	SCVWD	SCVWD
BIO-3: Monitor tentatively preserved trees – An ISA certified arborist shall monitor trees along APN 175-25-068 during construction to determine whether to preserve or remove trees when grading cuts are made. Trees removed from this area will be replanted as described in BIO-1 and BIO-2.	During construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
BIO-4: **Pre-construction meeting** - Prior to start of construction, The District's engineer, the Contractor, and the certified arborist shall meet to: • determine the location of tree protection fencing, • review planned work procedures around trees such as demolition of existing hardscape and excavation of the creek channel, • review the need for certified arborist approval	Prior to start of construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor/ Arborist

for any adjustment of the tree protection fencing and/or need to work within the fenced areas, • identify location where specialized treatments are required, and • review the requirements for clearance pruning based on contractor's equipment.				
BIO-5: Tree removal - Tree removal shall be performed by a tree care contractor possessing a State of California Contractor's License for Tree Service (C61-D49). All tree removal shall be supervised by an ISA certified arborist. All trees to be removed will be identified by flagging or paint.	During construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
BIO-6: Tree pruning - Pruning should be kept to the minimum necessary for safety, improving long-term tree structure, and providing clearance for construction equipment. All pruning shall be performed by a tree care contractor possessing a State of California Contractor's License for Tree Service (C61-D49). All pruning shall be supervised by an ISA certified arborist. All pruning shall be in accordance with the Tree Pruning Guidelines (International Society of Arboriculture) and adhere to the most recent editions of the American National Standard for Tree Care Operations (ANSI Z133.1) and Pruning (A300).	During construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
BIO-7: Tree Protection Zone - A tree protection zone will be established for all trees to be preserved and will be identified using either the dripline method or trunk diameter method, whichever is greater, as defined in the Tree Survey and Preservation Plan. The tree protection zone will be fenced prior to beginning of construction. No grading, construction, trenching, demolition, vegetation removal, or other work will be allowed in this area. No equipment, debris, or	Prior to start of construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor

materials will be dumped or stored within the zone. Any work that needs to occur within the zone will be directly supervised by an ISA certified arborist. Any modifications to the tree protection zone must be approved and monitored by the certified arborist.				
BIO-8: Pre-construction orientation - A pre-construction meeting will be conducted by an ISA certified arborist to explain the tree protection requirements to all construction supervisors and inspectors. All on-site personnel shall be oriented on tree preservation measures and rules.	Prior to start of construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
BIO-9: Tree protection guidelines during construction – Specific construction procedures will be employed during project construction. These procedures include: • Existing hardscape must be demolished without damaging tree roots. • Trees to be preserved that are located at or near the grading line, must be root-pruned prior to excavation of the new channel. Once the edge of the channel has been staked, roots along the edge must be pruned during excavation. As roots are encountered, they are to be pruned at the edge of excavation under supervision of an ISA certified arborist. • Root pruning required for construction purposes shall receive prior approval of, and be supervised by the certified arborist. Any roots greater than 1 inch in diameter that are injured (torn, broken, wounded, desiccated, etc.) during construction must be pruned to a point 1 inch behind the edge of the damage. • Supplemental irrigation is required whenever tree roots are uncovered or severed by trenching	During project construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor

or grading. Open trenches with exposed roots require a two-layer minimum of damp burlap or other acceptable covering at all times. Exposed roots should be kept moist until they can be buried. An ISA certified arborist will determine the amount of supplemental watering required based on evaluation of soil moisture and weather conditions. Any damage to existing irrigation systems must be reported to the Project Superintendent and District Engineer. • Injury to any tree during construction, including broken branches, must be evaluated as soon as possible by the certified arborist so that appropriate treatment(s) can be applied.				
BIO-9.1: Monitor freshwater marsh – The project reach will be monitored by a qualified biologist annually for five years, or less if vegetation is established, after the completion of construction to determine if freshwater marsh is re-colonizing the site. If, after five years, freshwater marsh vegetation does not exist within the project reach, the site will be seeded with seeds collected from Adobe Creek freshwater marsh plant species."	Five years following revegetation	SCVWD	SCVWD	SCVWD
BIO-10: Remove trees prior to nesting season – Trees that will be removed during construction will be topped (roots to remain in place) prior to the nesting season (January 15th) before construction to avoid or minimize the loss of individuals or active bird nests.	Prior to nesting season	SCVWD	SCVWD	SCVWD
BIO-11: Install exclusion netting under bridge – Netting will be installed under W. Edith Avenue Bridge prior to the nesting season to prevent birds from nesting under the bridge. If netting is not completed by the start of nesting season, bird nest surveys will be conducted prior to netting.	Prior to nesting season	SCVWD	SCVWD	SCVWD

BIO-12: Pre-construction surveys for nesting birds – Pre-construction surveys for active nest sites will be conducted by a qualified biologist no more than 14 days prior to tree removal and project construction.	14 days prior to tree removal and start of construction	SCVWD	SCVWD	SCVWD
BIO-13: Pre-construction surveys for raptor nests - Pre-construction surveys for raptor nests will be conducted no more than 14 days prior to tree removal and project construction to avoid loss of individuals or nest sites. The presence of active or inactive raptor nests within the project area at anytime during construction will require consultation with the California Department of Fish and Game and U.S. Fish and Wildlife Service prior to conducting work in the area. A protective buffer zone shall be erected and remain in place until appropriate protection measures are agreed upon through agency consultation.	14 days prior to tree removal and start of construction	SCVWD	SCVWD	SCVWD
BIO-14: Construction monitoring for active nests - A biologist shall be on site during tree removal operations. If active nests are present during construction and complete avoidance is not possible, appropriate non-disturbance buffers should be erected until nesting is complete.	During tree removal	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
BIO-15: Pre-construction surveys for roosting bats - Pre-construction surveys for roosting bats shall be conducted no more than 14 days prior to tree removal and project construction to avoid loss of individuals or active roost sites. If species are present within the project area and avoidance is	14 days prior to tree removal and start of construction	SCVWD	SCVWD	SCVWD

not possible, appropriate non-disturbance buffers should be erected until bats leave the roost at dusk, thereby minimizing impacts to these species. A bat specialist will be consulted to identify the appropriate protection measures.				
BIO-16: Pre-construction surveys for San Francisco dusky-footed woodrat - Pre-construction surveys for San Francisco dusky-footed woodrat shall be conducted no more than 7 days prior to tree removal and project construction to avoid loss of individuals or active nest sites. If species are present within the project area and avoidance is not possible, the California Department of Fish and Game will be consulted prior to conducting work in the area. Exclusionary fencing shall be erected at a distance of 50 feet around the nest and remain in place until appropriate protection measures are agreed upon through agency consultation ~~appropriate non-disturbance buffers should be erected around the nest site by a qualified biologist~~.	7 days prior to tree removal and start of construction	SCVWD	SCVWD	SCVWD
BIO-17: Pre-construction surveys for California red-legged frog – Pre-construction surveys for California red-legged frog will be conducted by a qualified biologist no more than 7 days prior to tree removal and project construction to avoid loss of individuals. If observed, a qualified biologist will relocate the frog(s) to an appropriate location upstream of the project site. Relocation will be consistent with applicable codes and permit conditions.	7 days prior to tree removal and start of construction	SCVWD	SCVWD	SCVWD
BIO-18: Restore staging and access areas – The staging and access areas will be restored to their pre-construction condition and hydroseeded with a native plant mix immediately following construction.	Immediately following construction	SCVWD	SCVWD	SCVWD

GEO-1: Conduct geologic investigation – A complete geologic investigation of the project site shall be conducted, and specific recommendations made to the District to mitigate potential geotechnical hazards along the channel prior to project construction, which may include excavation dewatering, shoring and bracing, and other stabilizing measures. All recommended measures would be implemented into the project.	Prior to project construction	SCVWD	SCVWD	SCVWD
GEO-2: Culvert construction – All new culverts and other channel structures would be constructed in accordance with appropriate building code standards to withstand seismic shaking.	During construction	SCVWD	SCVWD	SCVWD
WQ-1: Construction period – Project construction would only take place during periods of low creek flows.	During construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
WQ-2: Erosion control measures – Project construction would include the implementation of temporary erosion control measures and a stormwater pollution prevention plan.	During construction/ Prior to construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
WQ-3: Stabilize disturbed areas – Once construction is completed, the District would stabilize and/or revegetate the disturbed areas of the creek channel.	Immediately following construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
HAZ-1: Soil profiling – Prior to construction, soil profiling will be conducted to characterize Adobe Creek sediments and embankment soils to be excavated in order to determine soil reuse and disposal options.	Prior to construction	SCVWD	SCVWD	SCVWD
CUL-1: Discovery of prehistoric or historic resources – In the event that prehistoric or historic resources (human remains, artifacts, concentrations of shell/bone/rock/ash/dishware) are encountered during construction or maintenance activities, all construction and maintenance within a 50 meter radius of the find	During construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor

would be stopped, the District notified, and an archaeologist retained to examine the find and make appropriate recommendations. The District will follow the archaeologist's recommendations to reduce impacts to cultural resources to a less-than-significant level.				
TRAF-1: Truck routes – Any truck trips associated with project construction would avoid neighborhood streets, except where a local street may need to be traversed to access a site.	During construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
AQ-1: Suspend activities – Earthmoving and other dust-producing activities would be suspended during period of high winds.	During construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
AQ-2: Watering exposed surfaces – Equipment and manpower would be provided for watering of all exposed or disturbed soil surfaces at least twice daily. An appropriate dust palliative or suppressant, added to water before application, maybe utilized.	During construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
AQ-3: Soil stockpiles – Stockpiles of soil or other materials that can be blown by the wind would be watered or covered.	During construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
AQ-4: Street sweeping – Paved construction areas and adjacent streets would be swept of all mud and debris, since this material can be pulverized and later re-suspended by vehicle traffic.	During construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
NOI-1: Construction time – Construction activities would be conducted in accordance with all City Noise Ordinances which typically limit construction activity to the period between 7:00 AM and 6:00 PM Monday through Friday and 9:00 AM and 6:00 PM on Saturday.	During construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
NOI-2: Noise muffling – The contractor would be required to use "new technology" power construction equipment with state-of-the-art noise	During construction	SCVWD/ Contractor	Contractor	SCVWD/ Contractor

shielding and muffling devices. All internal combustion engines used on the project site would be equipped with adequate mufflers and would be in good mechanical condition to minimize noise created by faulty or poorly maintained engine, drive-train and other components.				
CONST-1: Construction fencing – The District would install temporary construction fencing to replace any backyard fences removed during construction, to provide security and privacy. Permanent fences would be replaced in kind.	During construction	SCVWD/ Contractor	SCVWD	SCVWD/ Contractor
UTIL-1: Utilities – All underground utilities would be relocated during project construction as necessary. Any damage to these utilities would be repaired and/or replaced by the District or utility company.	During construction	SCVWD/ Contractor	SCVWD/ Contractor	SCVWD/ Contractor

APPENDIX L

Comment Letters Received on Draft Supplemental EIR and Draft Engineer's Report

STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT

ARNOLD SCHWARZENEGGER
GOVERNOR

CYNTHIA BRYANT
DIRECTOR

April 30, 2007

Kristen O'Kane
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

Subject: Adobe Creek Upper Reach 5 Restoration Project
SCH#: 1995013041

Dear Kristen O'Kane:

The State Clearinghouse submitted the above named Supplemental EIR to selected state agencies for review. The review period closed on April 27, 2007, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Terry Roberts

Terry Roberts
Director, State Clearinghouse

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# **1995013041**
Project Title Adobe Creek Upper Reach 5 Restoration Project
Lead Agency Santa Clara Valley Water District

Type **SIR** Supplemental EIR

Description The project consists of channel improvements in the upstream section of the project reach and erosion repair work in the downstream section.

Lead Agency Contact

Name Kristen O'Kane
Agency Santa Clara Valley Water District
Phone (408) 265-2600 ***Fax***
email
Address 5750 Almaden Expressway
City San Jose ***State*** CA ***Zip*** 95118

Project Location

County Santa Clara
City Los Altos Hills, Los Altos
Region
Cross Streets W. Edith Avenue and Fremont Road
Parcel No. Multiple
Township 6S ***Range*** 2W ***Section*** 30 ***Base***

Proximity to:

Highways 280
Airports
Railways Caltrain (Central Expressway)
Waterways Adobe Creek
Schools
Land Use Residential

Project Issues Biological Resources; Flood Plain/Flooding; Vegetation; Wetland/Riparian

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Reviewing Agencies Resources Agency; Regional Water Quality Control Board, Region 2; Department of Parks and Recreation; Native American Heritage Commission; Public Utilities Commission; Reclamation Board; Office of Emergency Services; Department of Fish and Game, Region 3; Department of Water Resources; California Highway Patrol; Caltrans, District 4

Date Received 03/14/2007 ***Start of Review*** 03/14/2007 ***End of Review*** 04/27/2007

Note: Blanks in data fields result from insufficient information provided by lead agency.

State of California – The Resources Agency **ARNOLD SCHWARZENEGGER, Governor**
DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov
POST OFFICE BOX 47
YOUNTVILLE, CALIFORNIA 94599
(707) 944-5500

April 17, 2007

Ms. Kristen O'Kane
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

Dear Ms. O'Kane:

Subject: Comments on Adobe Creek Upper Reach 5 Restoration Project Draft Supplemental Environmental Impact Report

This letter is to inform you that the California Department of Fish and Game (DFG) has reviewed the Draft Supplemental Environmental Impact Report (SEIR) for the Santa Clara Valley Water District's (SCVWD) Adobe Creek Upper Reach 5 Restoration Project. Upper Reach 5 of Adobe Creek begins just upstream of West Edith Avenue and extends downstream for approximately 1,100 linear feet, forming the boundary between the City of Los Altos and the Town of Los Altos Hills. The Draft SEIR addresses potential environmental impacts associated with changes to the project description, footprint, and objectives of Reach 5 improvements described in the Final Environmental Impact Report for the Adobe Creek Watershed Planning Study, May 1999. As a result of coordination between various entities comprising the Adobe Creek Upper Reach 5 Collaborative, this Draft SEIR focuses on analysis of Alternative 8, the preferred alternative that is considered mutually acceptable to members of the Collaborative.

Page 10: Figure 4. Figure 4 shows the current alignment of Upper Reach 5 of Adobe Creek and some of the design elements proposed as part of the project. However, Figure 4 does not show all of the design elements outlined in the bulleted list and described in the text on page 12. For example, Figure 4 shows the step-pools that will be placed downstream of the 6-foot drop structure, the concrete wing wall that will be replaced downstream of the West Edith Avenue Bridge on the Los Altos Hills creek side, the wing wall that will be extended downstream of the West Edith Avenue Bridge on the Los Altos creek side, and the portion of the channel that will be filled in and planted outside of the newly proposed channel alignment. However, Figure 4 does not show the placement of rip rap upstream of the West Edith Avenue Bridge, the excavation of a 15-foot wide low flow channel flanked on each side with an 8-foot bench, sediment removal beneath the West Edith Avenue Bridge, or modification of the Robleda storm drain outlet. DFG prefers that the SCVWD provide one figure illustrating all of the design elements, thus enabling the reader to obtain a comprehensive picture of what is being proposed in the project, without having to sift through pages of text to determine what is missing in the figure.

Figure 4 is also missing some of the information outlined in the bulleted list on page 13, such as the locations of erosion site 4 and channel bottom erosion. In addition, the stationing shown in Figure 4 does not coincide with all of the sites described in Table 1. For example, Table 1 describes erosion site 3 as occurring between stations 1+045 to 1+068, whereas on Figure 4, erosion site 3 appears to be located approximately between stations

1+065 to 1+080. However, erosion site 4 is described in Table 1 as occurring between stations 1+068 to 1+080. It is unclear as to whether erosion site 3 in Figure 4 is mislabeled and is actually erosion site 4, or whether the stationing described in Table 1 is incorrect.

Table 1 also describes the placement of rock 3 feet up the bank on the Los Altos Hills creek side, whereas this is not shown at all in Figure 4. Another example of incongruous information between Figure 4 and Table 1 is at the location of the 4-foot drop structure. Table 1 describes a 4-foot drop structure downstream of an existing weir, resulting in the need for step-pools between stations 1+056 to 1+095. However, Figure 4 indicates that toe protection will be placed in the area of the step-pools, approximately between stations 1+070 and 1+095.

Overall, DFG finds some of the information presented in Figure 4 and Table 1 to be conflicting. DFG recommends that the SCVWD review the presented information and make appropriate changes to Figure 4, Table 1, and the written text such that all elements are properly illustrated on one figure, with proper labels and correct stationing.

Page 22: Figure 11. Figure 11, which shows the proposed staging areas for the project, does not contain any assessor parcel numbers (APNs), which are referred to in the text on page 20 when describing the staging areas.

Pages 27 and 28: Figures 12 and 13. Figures 12 and 13 show the extent of overland flow before and after project construction adjacent to the project site at 1,245 cubic feet per second (cfs) and at 2,400 cfs, respectively. According to the legend provided in the figures, water depth of overland flow is depicted by a scale of graduated color, from white (no water depth or very shallow water depth) to dark blue (greatest water depth). While the text on page 26 states that the depth of overland flow would be less after the project compared to existing conditions, Figures 12 and 13 appear to show the opposite trend. The shade of blue appears to be darker under the two flow scenarios (1,245 cfs and 2,400 cfs) in the figures projected after construction of the preferred alternative, as compared to the existing conditions. This suggests that there is greater overland flow predicted after construction relative to existing conditions. While it is understood that the project will not provide 1% flood conveyance capacity within the first 600 feet of Reach 5 downstream of the West Edith Avenue Bridge, one of the objectives of this project is to increase channel capacity of Reach 5. Therefore, it is expected that increased channel capacity would decrease the expected overland flows. Please explain this discrepancy relative to the two figures.

Page 35: Table 5. Please explain why no numbers are provided for the distance in linear feet to impacted Waters of the State, and provide the information if it is available.

Page 44: Figure 17. Please verify in the legend that trees indicated with a red dot without an X means that they were recommended for removal by the certified arborist but that they are not slated for removal as a result of this project.

Pages 45-46: Mitigation measures for trees. DFG is pleased with the mitigation measures proposed to protect trees in the vicinity of the project. DFG urges the SCVWD to follow the recommendations provided by the arborist which are outlined in the EDAW report attached in Appendix G pertaining to the use of the dripline method and trunk diameter method to establish the tree protection zone. DFG agrees that whichever method results in greater protection to the existing trees should be utilized during construction of the project.

Page 47: Bird nesting. Owls may begin nesting as early as January. DFG recommends that any vegetation removal activities be complete by mid-January to ensure that impacts to nesting birds, including owls, are avoided.

Page 48: Bats roosting beneath West Edith Avenue Bridge. Please clarify whether any evidence of bat roosting (observations of individuals or signs of bat guano) has been observed beneath the West Edith Avenue Bridge. While the table titled "Wildlife Species Observed on the Project Site" in the Biological Resources Report attached in Appendix F does not indicate any observations of bat presence, the text on page 48 of the SEIR may be interpreted to imply that bats are present beneath the West Edith Avenue Bridge.

Page 48: San Francisco dusky-footed woodrat. Please describe in more detail the non-disturbance buffers that would be erected around any San Francisco dusky-footed woodrat nest sites that are observed in the project area. DFG discourages the removal and relocation of occupied dusk-footed woodrat nests, and requests verification that the SCVWD is not proposing this strategy.

Appendix D: Page 9: WQ-10. DFG requires that wet sacked concrete and poured concrete be excluded from the wetted channel for 30 days (not two weeks) unless treated with a sealant, in which case it must be excluded from the wetted channel until the sealant is dry.

Questions regarding this letter and further coordination on this project should be directed to Tami Schane, Environmental Scientist, at (415) 831-4640; or Greg Martinelli, Water Conservation Supervisor, at (707) 944-5570.

Sincerely,

for

Charles Armor
Acting Regional Manager
Bay Delta Region

California Regional Water Quality Control Board

San Francisco Bay Region

1515 Clay Street, Suite 1400, Oakland, California 94612
(510) 622-2300 • Fax (510) 622-2460
http://www.waterboards.ca.gov/sanfranciscobay

Linda S. Adams
Secretary for
Environmental Protection

Arnold Schwarzenegger
Governor

Date: APR 25 2007
File No. 2188.07 (PFA)

Ms. Kristen O'Kane
Environmental Planner
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

SUBJECT: Comments on the Santa Clara Valley Water District Draft Supplemental Environmental Impact Report and Engineer's Report for the Adobe Creek Upper Reach 5 Restoration Project

Dear Ms. O'Kane:

San Francisco Bay Regional Water Quality Control Board (Water Board) staff has reviewed the Santa Clara Valley Water District Draft (District) Engineer's Report (ER) and Draft Supplemental Environmental Impact Report (DSEIR) for the Adobe Creek Upper Reach 5 Restoration Project (Project). We appreciate the continued opportunity to provide input on the Project and to add to the collaborative process while reviewing Water Board interests of protecting water quality and beneficial uses of waters of the state. The following comments are intended to focus on water quality and beneficial uses and possible affects of the Project on these resources.

Engineer's Report

1. Page 3: Water Board staff concurs that the Project is an improvement over the original 1999 preferred alternative. Omitting gabions, reducing hardscape, and using geomorphic design principals are laudable accomplishments. However, while reducing the Project footprint by narrowing the Project width may be an improvement for creek-side residents; this is not necessarily an improvement for water quality or beneficial uses. Wider channel designs (Geomorphic Alternatives) previously provided to the Collaborative by the District could further reduce the amount of erosion and hardscape banks while increasing the riparian revegetation potential along the creek. This kind or design would be more consistent with the historical floodplain morphology described on page 9 of the ER. Water Board staff understand that wider channel alternatives were not feasible for the District because they were in conflict with property owner interests. For these

reasons, Water Board staff does not consider this is a true restoration project so much as a flood protection project based on constrained geomorphic design principals, consistent with Project Objective 2 on Page 11.

2. Page 3: Water Board staff strongly support the collaborative process that the District has participated in since 2003 and encourage the District to assemble stakeholder groups for future flood protection projects.
3. Page 9: Please provide summary findings from the 2005 Phase 1 Hazardous Materials Assessment with the Project application for water quality certification.
4. Page 11: Water Board staff support Project Objective 11, to "protect, in perpetuity, the existing floodplain and overland flow paths". Please clarify the extent of floodplain and overland flow paths that are considered. Will the existing extent differ from the post-project extent?
5. Page 13: Vegetation criterion has been used to identify trees of particular value and trees to be preserved if possible. While both native and non-native trees can provide water quality and beneficial uses, non-native invasive trees should be considered appropriate for removal if revegetating with native species will improve water quality and beneficial uses of Adobe Creek. Water Board staff are particularly concerned with the density of eucalyptus trees along some sections of Adobe Creek due to their ability to draw significant amounts of groundwater and reduce dry season flows in streams, as well as the production of allelopathic compounds that inhibit understory growth and negatively affect aquatic organisms.
6. Page 17: Water Board staff recognizes the efforts of the District and creek-side residents to come to agreement on a less than one percent frequency flood protection project. As described in the DSEIR, flooding observations of long-time residents were used, along with the District's hydrologic modeling, to identify a level of flood protection that could be supported by those most affected.
7. Page 20: Water Board staff recognizes and supports the use of stable reference reaches in the design of the bankfull channel cross-section. This approach should help improve sediment transport and channel stability.
8. Pages 23-25: The ER states that Alternatives 2 – Geomorphic, 3 - Geomorphic with Step-pools, and 4 – Geomorphic with Cascading Step-pools were "not acceptable to the Collaborative" because they did "not meet the right of way criterion of the project because the channel top width exceeded the blue line limits at some locations along the channel". Water Board staff participated in the Collaborative for several meetings and

provided written comments and emails related to the Project. None of the described alternatives were ever considered unacceptable to Water Board staff because the top width exceeded the blue lines set by creek-side residents. On the contrary, Water Board staff continually and consistently supported maximizing the top width because of reasons mentioned in comment number 1 of this letter. Please revise the Final ER to clarify this point. The chronology of alternatives development is appreciated.

9. Page 37: For clarification, the concrete retaining walls were considered unacceptable to Water Board staff primarily due to habitat impacts to the stream channel and less due to visual and mitigation impacts as stated.

10. Page 38: Table 4-2 describes the location, description and erosion repair element at twelve locations downstream of the Robleda outfall. Seven locations describe the use of rock toes, rock bank, or rock invert to prevent erosion but no revegetation element is described. Revegetation at proposed erosion protection sites should be described in the Final Supplemental EIR (FSEIR). If vegetation is not proposed, the FSEIR should describe why. Water Board and District staff have continued to work together to reduce the amount of hardscape and increase native riparian vegetation at erosion repair sites in Santa Clara County streams. The Project should reflect this to the maximum extent practicable.

11. Page 43: The description of the preferred alternative includes revegetation using "plant species which will provide both esthetic and habitat restoration". Water Board staff encourage the use of watershed specific native riparian and upland species for the revegetation component of the Project.

12. Page 44: The FSEIR and/or the future application for water quality certification should provide BMPs that will be implemented to prevent the Town of Los Altos Hills sewer line from being damaged and potentially leaking into the stream.

13. Page 44: The future permit application for water quality certification should describe how nuisance water will be diverted from the construction site without degrading downstream water quality.

Draft Supplemental Environmental Impact Report

14. Pages 3 and 4: The Summary of Environmental Impact mentions impacts to 0.05 acre of freshwater marsh and states that freshwater marsh will be recreated as part of the Project. Will the Project design include creation of freshwater marsh or is it assumed that this type of habitat will form without direct intervention? Due to the importance of this sensitive

jurisdictional habitat, monitoring objectives should include measuring recruitment of new freshwater marsh and next steps if they do not develop.

15. Page 4: Please define "appropriate vegetation".

16. Page 12: Please describe the purpose of the rock rip rap that is proposed in the channel bed upstream of West Edith Avenue Bridge. Is this intended to provide grade control for the Project? If so why is this needed in addition to the weir at the downstream face of the Bridge shown on sheet C-3 of the DER?

17. Page 18: Table 2 summarizes the amount of hardscape to be removed and new hardscape proposed. The net increase of hardscape would be approximately 6,599 square feet, primarily due to construction of step-pools in the channel bottom but also from bank protection and wingwall construction. While the Project may provide improvements to channel stability, wildlife habitat and migration, and water quality, it is still a substantial increase in hardened channel bed and banks. The District's mitigation and monitoring plan should be designed to measure indices that demonstrate whether the reconstructed channel does in fact adequately compensate for permanent and temporal impacts of construction and project performance. The plan should also include a process to identify future compensatory mitigation in the event the reconstructed channel does not adequately improve pre-project conditions.

18. Page 20: Maintenance activities that require access to the creek would involve construction of a temporary access ramp downstream of West Edith Avenue Bridge. Would access at this location disturb revegetation associated with the Project? If so, it may be more appropriate to plant this area with disturbance tolerant species only.

19. Page 41: The DSEIR states that "the overall goal of restoration will be to compensate for the loss of mature trees by creating a natural riparian corridor of diverse plant species and varying canopy heights" and that trees will include "evergreen" species. It goes on to state that "the majority of trees will be native species…". Water Board staff strongly support the overall goal but request additional information regarding the use of nonnative and evergreen trees. Based on previous discussions with District staff, and the conceptual revegetation plan illustrated in Figure 16, it appears that several redwood trees may be proposed, especially along the Los Altos Hills side of the channel. While some redwood may not be inappropriate, given that they are likely native to the upper watershed, page 29 of the DSEIR lists them as a landscape tree under the "Non-native Riparian" heading. The revegetation plan should clarify non-native species, where and how much will be planted, and why they are appropriate. Water Board staff recommends the use of location specific native vegetation for mitigation or restoration project planting plans.

20. Page 42: Impacts to trees include removal of 64 trees in the Project footprint. The DSEIR mentions that removal will have an impact on aquatic habitat due to the loss of root wads along the channel bank. The District should consider integrating root wads from removed trees into bank protection components of the Project. This method has been successfully used by the District and many other project proponents.

December 12, 2006, Notice of Preparation Comment Letter

21. Water Board staff NOP comment number 4 requests a description of "stream bed fill material" and suggests that gravels and cobbles be used whenever possible to improve aquatic habitat. Please provide this information in the FSEIR and the Project application for water quality certification.

22. Water Board staff NOP comment number 6 suggests the updated Mitigation Monitoring Report be provided with the DSEIR. This information has not been provided, presumably because it is still under development. Please provide this information for Water Board staff review with the FSEIR and Project application for water quality certification.

Thank you again for the opportunity to review the ER and DSEIR for the Project. If you have any questions, please contact me at (510) 622-2429, or via e-mail at pamato@waterboards.ca.gov.

Sincerely,

Paul F. Amato
Environmental Specialist

Cc: Ms. Molly Martindale, USACE – Regulatory
Ms. Luisa Valiela, USEPA – Region IX
Ms. Tami Schane, CDFG

4/23/2007
ACWG Steering Committee Comments
On
Adobe Creek Upper Reach 5 Restoration Project
March 2007 Draft Supplemental Environmental Impact Report

1. Page 2, 3rd paragraph
   Please add to last sentence:
   "...in the initial flood plain portion, increasing to the 100 year capacity as the channel deepens as it exits the flood plain."

2. Page 5, Project Location
   Please change start of second sentence to:
   "The portion of Adobe Creek in this project..."

3. Page 5, Development of Revised Project
   Please change start of first sentence to:
   "At the suggestion of, and under the leadership of the District, a...."

4. Page 6, Figure 1
   Please consider using same figure from NOP for identification of project location.

5. Page 13, Channel Bottom 1st paragraph 3rd and 5th sentences
   Please replace "Rock rip-rap..." with "Step-pools..."

6. Page 20, Spoil Management
   What about trucks coming in?

7. Page 22, Figure 11
   Please consider expanding the staging areas to any available space.

8. Page 24, 1st paragraph
   Please change "ephemeral" to "intermittent".

9. Page 29
   Please define "ruderal".

10. Page 44, Figure 17, Tree Removal

    a. This figure needs help to correlate to prior plans and to Draft ER: color scheme not defined, and number listings need larger type, especially when the removal "X" obscures the tree identification number (or perhaps adding a duplicate number off to the side of the symbol).

    b. Also, Trees 281 & 282 at Robinwood Pool Pump House are not shown on this figure (one is a 6' stump on top -of -bank fence line, other is a lower stump next to pump house). These tree stumps might have to be removed to insure quality project in terms of best construction practices for bank erosion correction elements near Remmel/Robinwood Pool property line.

11. Page 12, Second paragraph to last
 Please change to:
 "The creek channel improvements would widen the existing channel to 40 feet and up to as much as 50 feet by Robleda storm drain."

12. Page 20, Spoil Management

 a. Please review the construction phase in order to meet the project schedule deadline. For example, 16 trucks/day will take four months which represents the entire duration of the project.

 b. Please minimize noise and dust as much as possible using an appropriate fence.

13. Page 20, Access and Staging

 a. Swale may not be an appropriate safe access for heavy trucks due to the presence of underground water line, electrical line and gas line, and close proximity to the pool and oak tree drip line.

 b. All project sites to be restored to owners' satisfaction by no later than end of 2008.

14. Page 39
 Please uphold Los Altos Hills tree replacement policy and restore the existing screening provided by the mature trees that are so valuable to all the neighbors.

15. Page 41, BIO-1
 Planting area (.96 acre) should be identified as the creek bank starting from bankfull, then up to the top of bank and beyond.

16. Didn't see any mention of the x2 palm trees to be transplanted.

17. Page 6, Figure 1
 This colored map of Adobe Watershed is inconsistent with historic SCVWD depiction of Adobe Creek watershed, and with that presented in the Engineer's Report. Staff mentioned that it was SCVWD designated Lower Peninsula watershed. This needs title correction and/or Adobe Creek watershed shaded in separately.

18. In the Engineer's Report, (Figures 3-3, 3-4, 3-5, and 3-6), in describing Upper Reach 5 overland flows, the scope of this flood control project is expanded into Reach 6. This is not fully substantiated by any further documentation on environmental or channel conditions in Reach 6. I find this is a deficiency. If no actual construction or modification is to be proposed in Reach 6 then this report needs to reference original 1996-99 Engineer's Report and EIR recommendations for Reach 6 as found

on page 5-35 and 7-32, “The proposed measure is to pursue a new maintenance program.” Specifics of such a maintenance program should be outlined in these documents.

19. Please specify that 'weeding' of restored vegetation in Adobe Creek riparian corridor not entail the use of herbicides.

20. Please clarify the linear feet of rock rip-rap that is to be laid in channel, and the percentage of channel that will no longer have percolation potential. Will low spots and step pools have the reinforced rock rip-rap base and therefore offer no capability of percolation?

21. Consider the degree to which this geomorphic design needs to predominantly incorporate natural elements.

22. The widened low flow channel will increase temperatures of low flows and increase level of evaporation.

23. It can never be emphasized enough that this project location is the park entrance to Los Altos Hills, and that Edith Park is the only neighborhood flatland park for this part of Los Altos Hills. This route, especially the path from Robleda to the bridge, is without sidewalks, is used by school children as well as local residents jogging and out walking the dog, and should not be obstructed during construction.

24. Adobe Creek was called a perennial creek by Soil Conservation Service expert Hal Campy in 1983-84.

25. Protective fencing should be erected to prevent parking of construction equipment, changes in soil level, and removal or addition of vegetation within the drip line of the heritage oaks and other important trees identified by the following tree numbers:

    214
    227
    273
    294
    300
    310
    317
    575
    608
    613
    628 (can’t find location on map)

26. Page 44, Figure 17

    a. Please improve the legend to clarify that trees identified by red circles without X’s will not be removed.

b. The following trees, identified by tree numbers with survey numbers in parentheses, appear in the 2002 tree survey, but are not shown in Figure 17. Some were larger than 6 inches in diameter at breast height, Why are they not shown now, and what will happen to them?

124 (6089)	Shown on Draft ER Sheet D1
125 (6090)	Shown on Draft ER Sheet D1
175 (6258)	
42 (6256)	
45 (6241)	
41 (6260)	
141 (6112)	
140 (6125)	
71 (6464)	
67 (6465)	
68 (6466)	
69 (6467)	

27. Appendix G, Tree Survey and Presentation Plan, Appendix D, Proposed Action for Each Tree
Note that trees in 550's range are attributed to Moos when they should be Rogez's, and channel oxbow trees No. 515 to 521 said in Appendix D (P.D-4) to be owned by Astiz actually belong to Theis.

28. Appendix G, Pages 11 and 12, Table 4, Tree Species...not Permitted...
Prunus ilicifolia, hollyleaf cherry, is native to Adobe Creek and should not be on this list of plants prohibited by SCVWD. It is excellent habitat and should be available for the revegetation of Adobe Creek Reach 5.

29. Whenever possible, we prefer revegetation within the stream banks to consist of plants currently growing in the Adobe Creek watershed as shown in green on the ACWG Reach 5 Plant List dated 2007-01-06.

30. Page 28, Figure 13, Extent of Overland flow at 2400 cfs
This figure appears to show the preferred alternative increasing the extent and depth of overland flow in Reaches 5 and 6 when compared with the existing conditions.

31. Page 20, Access and Staging
Please use vacuum mechanical sweepers to remove mud and/or dirt from all routes used during construction, including Edith Ave, Fremont Road, and Seven Acres Lane.

32. What is the renewed maintenance schedule for reach 6?

33. A reminder that this area is the main entrance to our town. It is very important to preserve the current green vistas representing the town environmental heritage.

Kristen O'Kane

From: Richard & Ellie Moll [remoll@earthlink.net]
Sent: Tuesday, April 24, 2007 7:58 AM
To: Tony Ndah; Kristen O'Kane
Cc: Jason Christie; Saeid Hosseini; adobe_creek_watershed_group@yahoogroups.com
Subject: SEIR Comment on Website

To Kristen O'Kane -

Based on our phone conversation yesterday, I would like to ask you to add a reference to our website in the SEIR. Here is a draft that was approved by the ACWG Steering Committee last night.

To Tony Ndah -

Perhaps it would be worthwhile to add a similiar paragraph in the Engineer's Report.

Thanks for your consideration, Richard Moll

Additional Comment for Draft SEIR.

Please consider adding a reference to the Website that is available with additional information for the Adobe Creek Reach 5 Project.

Perhaps in Section 2 - Description of the Proposed Project, on Page 9, just before Project Objectives, might be a good place to add a new subheading:

Project Website

A Website has been established for the Adobe Creek Upper Reach 5 Project for informational purposes at

ttp://www.lahopenspace.com/Adobe5 . Among other things, this website contains a description of the project, photos of the creek, photos of a model of a portion of the creek bank, minutes of the meetings, schedules, residents' inputs, District reports, and essentially documents the history of the development of the project. It also contains the Draft Supplemental EIR (SEIR) and the Draft Engineer's Report (ER), and the current matrix of concerns. This website is maintained by the Adobe Creek Watershed Group (ACWG) webmaster.

Kristen O'Kane

From: JLucas1099@aol.com
Sent: Wednesday, May 02, 2007 9:32 AM
To: Kristen O'Kane
Subject: Adobe Creek Upper Reach 5 Restoration Project DSEIR

Kristen,

As a last hurrah comment on tree removal in Adobe Creek Upper Reach 5 I would like to point out that there are, I believe, some 56 trees slated to be removed from the channel, (as mentioned in 2002 demolition plan), whose survey numbers are not listed in present 2007 removal lists. They may be neglible trees in species and/or size, but do contribute to shade and aesthetic and traffic noise screening of overall riparian canopy.

The survey numbers are 6089 -6090 - 6091 - 6092 - 6094 - 6095 - 6098 - 6099 - 6100 - 6102 (2nd eucalyptus) - 6105 - 6106 - 6107 - 6112 - 6113 - 6114 - 6115 - 6116 - 6121 - 6122 - 6125 - 6126 - 6127 - 6132 - 6133 - 6160 - 6171 - 6175 - 6176 - 6177 - 6181 - 6182 - 6187 - 6193 - 6194 - 6205 - 6206 - 6207 - 6208 - 6209 - 6210 - 6211 - 6241 - 6249 - 6256 - 6258 - 6260 - 6282 - 6254 - 6380 - 6453 - 6455 - 6464 - 6465 - 6466 and 6467. (Think this accurate but will not stake life on it as going back and forth with magnifying glass not ideal)

This then augments tree removal numbers from 64 to 120? Can see that some of small trees might have been counted as negligable but large eucalyptus are habitat/refugia all the same.

On 2007 DSEIR list you have 23 trees noted that do not have survey numbers, including three heritage trees, but they do not overlap this earlier demolition plan list?

~ My second concern is the extensive excavation of Los Altos Hills bank of Adobe Creek. It seens wasteful of a resource of rich and site specific appropriate riparian soils to have them carted off and lost to creek. As these soils retain vegetation seed banks and nutrients that are needed to restore this riparian corridor and to stabilize stream, can there not be some arrangement made to stockpile and conserve top 7 or 8 feet of soil?
A comparable riparian site on Los Trancos Creek has intriguing number of plants rebounding on their own, such as native blackberry, coast and valley oaks, willows, rushes, Snowberry, Wild Cucumber and varieties of sage.

See what's free at AOL.com.

Kristen O'Kane

From: JLucas1099@aol.com
Sent: Wednesday, May 02, 2007 10:13 AM
To: Kristen O'Kane
Cc: jsmandle@hotmail.com; Djrogers@telenet2000.com; REMoll@Earthlink.net
Subject: Adobe Creek Upper Reach 5 DSEIR - continued comments

Kristen,

Sorry my computer froze so had to submit first half of comment communique mid-stream...but to continue...

The soil is right for natives appropriate for this location of Adobe Creek (best if not amended), the drainage is good and under optimum natural conditions there will be supportive perennial stream flows.

~ A third concern continues to be that staging area impacts be more precisely addressed and conditions be incorporated in engineer's report (that will be adhered to by contractors) to ensure that existing landscape plantings be preserved. Oaks especially need protection for entire drip line understory, and some protective surface needs to be laid down to avoid soil compaction on parkland and private property by heavy equipment.

~ Lastly, after Adobe Creek Project Public Hearing last Thursday evening, I worried that inclusion of Reach 6 in Engineer's Report Hydrology Attachment A, as background watershed review of overland flows, might be construed as sufficient engineering evaluation of Reach 6 channel to permit the replacement of Burke Bridge.
A disclaimer that such a project requires a full environmental assessment of Reach 6 would be appreciated.

A rough draft of these comments was circulated to our Adobe Creek steering group and I believe I have made the appropriate modifications. Thank you for your continued dilligence in environmental guidance of this plan.

Libby Lucas

See what's free at AOL.com.

APPENDIX M

District Board of Directors' Resolution and Findings of Fact on Final Supplement EIR

RESOLUTION NO. 2007-

CERTIFYING THE FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT AND MAKING FINDINGS THEREON; APPROVING THE ENGINEER'S REPORT; DETERMINING TO PROCEED WITH THE PROJECT, AND ADOPTING THE MITIGATION MONITORING AND REPORTING PROGRAM

ADOBE CREEK UPPER REACH 5 RESTORATION PROJECT

WHEREAS, the Santa Clara Valley Water District (District) is the lead agency per the California Environmental Quality Act (CEQA) for the Adobe Creek Upper Reach 5 Restoration Project (Project); and

WHEREAS, the District prepared and certified an Environmental Impact Report for the Adobe Creek Project (May 1999) and now has prepared a Draft Supplemental Environmental Impact Report (SEIR) for the Project, and circulated it for public review and comment as required by law; and

WHEREAS, on March 13, 2007, the Report of the District Engineer for the Project was filed with this Board, containing:

1. A general description of the proposed Project, together with plans and profiles relating thereto;
2. A general description of and maps showing the location of the proposed Project and the lands, right of way, and easements required therefor;
3. An estimate of the cost of the proposed Project and means of financing these costs; and

WHEREAS, on March 13, 2007, the Board of Directors adopted a resolution specifying its intention to consider undertaking the proposed Project and setting a time and place for public hearing on the Engineer's Report and on the Draft SEIR, to wit, the 26th day of April 2007, at 7:00 p.m., at the Hillview Community Center, 97 Hillview Avenue, Los Altos, California; and

WHEREAS, notice of the time and place of public hearing was duly given and published; and on the 26th day of April 2007, at the time and place specified, the public hearing was held; and

WHEREAS, comments received on the Draft SEIR during the comment period and at the public hearing have been responded to and incorporated into a Final SEIR;

NOW THEREFORE, BE IT RESOLVED by the Board of Directors of the Santa Clara Valley Water District as follows:

A. CERTIFYING THE FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT

Based on substantial evidence in the record before it, this Board finds and certifies as follows:

1. The Final SEIR for the Project has been completed in compliance with CEQA and is adequate for purposes of Board consideration of the Project.
2. The Board of Directors has reviewed and considered the information contained in the May 1999 Final EIR and in the Final SEIR and the record including, but not limited to, staff reports, oral and written comments provided by the public, and state and local agencies; responses to said comments contained in the Final SEIR; and other matters deemed material and relevant prior to making a decision on the Project.

3. The Final SEIR reflects the independent judgment and analysis of the District.

B. FINDINGS CONCERNING IMPACTS

In accordance with CEQA Guidelines §15091, and based on substantial evidence in the record, the District Board of Directors finds as follows with respect to the potential for the Project to result in significant environmental effects:

1. Changes have been incorporated into the Project which avoid, and/or substantially lessen the potentially significant environmental effects identified in the Final SEIR. The District has the full responsibility for implementation of such changes during the development of the Project.

2. Specific findings concerning each potential impact are set forth in Attachment A to this Resolution, and are incorporated herein by this reference.

C. APPROVAL OF THE ENGINEER'S REPORT AND DETERMINATION TO PROCEED WITH THE PROJECT

1. The Board has heard and considered all comments including any written and oral objections to the proposed Project;

2. The Board hereby approves said Engineer's Report, including the general plans for the Project, located in Los Altos and Los Altos Hills;

3. The Board determines that the Project is for the common benefit of the District as a whole; the costs shall be borne by the Lower Peninsula Watershed Fund.

4. The Board approves going forward with the Project and directs the District Engineer to draw up precise plans and specifications for said Project based upon said report, incorporating all mitigation measures identified in the Final SEIR as described in the Mitigation Monitoring and Reporting Program.

5. The documents and materials which constitute the record of the proceedings upon which this decision is based shall be available for the Clerk of the Board of the Santa Clara Valley Water District, 5750 Almaden Expressway, San Jose CA, 95118-3614.

D. MITIGATION MONITORING AND REPORTING PROGRAM

A Mitigation Monitoring and Reporting Program (MMRP) for the Project, Appendix K in the Final SEIR, is hereby adopted pursuant to Public Resources Code Section 21081.6. Implementation of the MMRP, to avoid or substantially lessen significant environmental effects, is hereby required as a condition of approval of the Project.

BE IT FURTHER RESOLVED that the Chief Executive Officer is hereby authorized and directed, on behalf of the District's Board of Directors; to execute any such documents and to perform any such acts as may be deemed necessary or appropriate to accomplish the intention of this resolution.

PASSED AND ADOPTED by the Board of Directors of the Santa Clara Valley Water District on the 10th day of July 2007 by the following vote:

AYES: Directors

NOES: Directors

ABSENT: Directors

ABSTAIN: Directors

SANTA CLARA VALLEY WATER DISTRICT

By: ______________________________

Tony Estremera
Chair/Board of Directors

ATTEST: LAUREN L KELLER

____
Clerk/Board of Directors

ATTACHMENT A TO RESOLUTION OF THE BOARD OF DIRECTORS

FINDINGS OF FACT REGARDING THE FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT FOR THE ADOBE CREEK UPPER REACH 5 RESTORATION PROJECT

The Board makes these findings in accordance with Sections 15091 of the California Environmental Quality Act ("CEQA") Guidelines and Section 21081 of the Public Resources Code. To fulfill its responsibilities as the lead agency under CEQA, the District must prepare written findings of fact for each potentially significant adverse environmental effect identified in the Final Supplemental Environmental Impact Report for the project, and explain whether the project has been changed to avoid or substantially reduce the magnitude of the impact.

I. BACKGROUND

A. Project Description

1. In May 1999, District staff prepared the Adobe Creek Watershed Planning Study, consisting of the Engineer's Report and Final Environmental Impact Report to construct creek channel improvements in Adobe Creek from El Camino Real to Moody Road.

2. The design for the project in Reach 5 has been modified from that described in the 1999 FEIR. The revised project is limited to the upper section of reach 5 of Adobe Creek beginning just upstream of W. Edith Avenue and extending downstream for 1,100 feet.

3. The specific project which is proposed for approval by the District Board is described in the Supplemental EIR and District Engineer's Report. In these findings, the Adobe Creek Upper Reach 5 Restoration Project will be referred to as "the Proposed Project."

4. The purpose of the Proposed Project is to provide residents an increased protection from flooding and repair the eroded channel using a modified geomorphic design. The Proposed Project will not provide 1% flood conveyance capacity within the first 600 lineal feet of Upper Reach 5.

5. The Adobe Creek Upper Reach 5 Collaborative was formed in 2003 to develop a creek restoration project that would be mutually acceptable to all Collaborative members and participants. Collaborative members include the District, Adobe Creek Watershed Group, creekside property owners, citizens, Town of Los Altos Hills, City of Los Altos, and regional, state and federal regulatory agencies.

6. The Proposed Project consists of channel improvements in the upstream section of the project area and erosion repair work in the downstream section. The creek channel improvements include the following activities:

- Install rock rip rap upstream of W. Edith Avenue Bridge along the channel bottom beginning just downstream of the existing sanitary sewer line to the design invert of the upstream face of the bridge;
- Excavate a 15-foot wide low flow channel, with an 8-foot wide bench on both sides of the low flow channel. Channel banks will be sloped at 2:1 (horizontal to vertical ratio) or flatter above the bench on the Los Altos Hills creekside for 700 feet downstream of the W. Edith Avenue Bridge, except for two locations along the channel;
- Construct step-pools beginning 500 feet downstream of the W. Edith Avenue Bridge and continue for 200 feet downstream;
- Grade the channel invert to remove accumulated sediment from underneath the W. Edith Avenue Bridge;
- Replace an existing concrete wing wall downstream of the W. Edith Avenue Bridge on the Los Altos Hills creekside;
- Extend an existing wing wall downstream on the W. Edith Avenue Bridge on the Los Altos creekside;
- Fill and plant a portion of the existing channel outside of the proposed channel alignment;
- Modify the Robleda storm drain outlet; and
- Revegetate the project area.

7. The downstream erosion repair work consists of the four erosion sites, four bank toe protection sites, and channel bottom stabilization. These activities include:

- Erosion Site 1 – Rock riprap slope protection placed at a 1.5:1 bank slope up to the 10-yr water surface elevation.
- Erosion Site 2 – Rock riprap slope protection placed at a 1.5:1 bank slope up to the 10-yr water surface elevation.
- Erosion Site 3 – Rock at the channel toe 3 feet up the bank, no cut into existing bank.
- Erosion Site 4 – Rock riprap slope protection placed at a 1.5:1 bank slope up to the 10-yr water surface elevation.
- Bank toe protection – Four additional sites will be reinforced with rock riprap to stabilize the toe of the bank.

- Channel Bottom Erosion – Stabilizing the channel invert with "fish passable" step-pools along the channel bottom.

8. The Proposed Project is designed to accomplish the following objectives:

- Restore the creek through the repair of the eroded channel and the removal of existing drop structures,
- Stabilize the creek banks,
- Remove accumulated sediment under W. Edith Avenue Bridge,
- Improve the channel conveyance capacity,
- Allow for overland flow during flood events, and
- Achieve the above objectives, while minimizing/avoiding environmental and right-of-way impacts to the greatest extent practical.

A comprehensive list of project objectives can be found in Chapter 3 of the Engineer's Report for the Proposed Project.

9. Construction of the Proposed Project will not proceed until the design phase is complete and the final project is approved. Construction will occur in one year. Construction can only occur during dry periods – in spring and summer months, typically between April 15th and October 15th; construction delays caused by weather or other conditions could result in extending construction activities another year.

10. The District has identified the following benefits of the Proposed Project:

- Provide greater protection from flooding by constructing a wider channel.
- Reduce right-of-way impacts to private property owners.
- Reduce potential for future maintenance projects within Reach 5.
- Improve riparian and instream habitats.
- Establish a pilot program for future Collaborative efforts.

11. The District has identified the following disadvantages of the Proposed Project:

- Temporary impacts to riparian and instream habitat.
- The temporary disruption to private property and the community during construction.
- Does not provide 1% flood conveyance capacity in first 600 feet of Upper Reach 5.
- Limited access for future maintenance

12. The Board finds that the Proposed Project is consistent with the general plans and regional plans of all affected jurisdictions and agencies. The Board further finds that the Proposed Project will not disrupt or divide the physical arrangement of an established community, will not conflict with adopted environmental plans and goals of the community and will not permanently conflict with any established recreational, educational, religious, or scientific uses of the area.

B. The Supplemental EIR Process

1. The District as the lead agency for the Proposed Project has caused to be prepared a Final Supplemental EIR (SEIR) for the Proposed Project, based on the requirements of the California Environmental Quality Act (Sections 21000-211177, Public Resources Code) and the Guidelines for CEQA (Section 15163, Administrative Code, Title 14, Chapter 3). The Final SEIR for the Proposed Project contains a description of project elements, information on the project setting, and analyses of impacts with respect to hydrology and biological resources.

2. Preparation of a Supplemental EIR is consistent with §15163, et seq. of the California Environmental Quality Act (CEQA) Guidelines for new information of substantial importance to a proposed project in which revision of certain sections of the FEIR is adequate to address the changes made to the project, including changes to mitigation measures and project alternatives.

3. Decisions about project objectives and the scope of the Final SEIR and Engineer's Report are based on input from environmental assessments, the Collaborative and public participation process, and resource agency meetings.

4. Pursuant to state CEQA Guidelines Section 15132(e), the Final SEIR consists of the following documents and materials: the Draft SEIR issued in March 2007, and the "Final Supplemental Environmental Impact Report for the Adobe Creek Upper Reach 5 Restoration Project," which includes the comments on the Draft SEIR and the District's responses thereto.

5. Copies of the Final SEIR are on file in the District's library and, along with the 1999 Adobe Creek Watershed Planning Study (consisting of the Final EIR and ER), planning and other District records, minutes and files constituting the record of proceedings, are incorporated herein by this reference. The Board designates Lauren L. Keller, Clerk of the Board of Santa Clara Valley Water District, 5750 Almaden Expressway, San Jose, CA 95118, as the custodian of documents and record of proceedings on which the decision was based. Since the text of the Draft SEIR was restated (with revisions indicated) in the Final SEIR, references in these Findings to specific pages of the SEIR will be to the "Final SEIR."

6. On March 19, 2007, the Draft SEIR was circulated for a 45-day period of public review and comment, closing on May 2, 2007. In addition, the District Board conducted a public hearing on the Draft SEIR on April 26, 2007 in Los Altos to provide an opportunity to hear oral comments, and any additional written comments.

7. The Final SEIR reflects revisions to the Draft SEIR in response to comments regarding the Draft SEIR. Specific responses to individual comments on the Draft SEIR are presented in Section 6.0 of the Final SEIR.

8. In completing the Final SEIR, staff sought input from local, state, and federal agencies as well as other members of the Adobe Creek Upper Reach 5 Collaborative. Copies of the proposed responses to comments were sent to commenters including the California Department of Fish and Game and San Francisco Bay Regional Water Quality Control Board. Federal agencies consulted included the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency. The Town of Los Altos Hills and City of Los Altos were among the local agencies contacted.

C. Changes from the Draft to Final Supplemental EIR

1. Since the issuance of the Draft SEIR, language has been added to the Project Description to address comments received.

2. The Final SEIR includes revisions to Figures 1, 4, 11, 12, 13, and 17 and Table 1 in response to comments received.

3. The total mitigation planting area has been reduced from 0.96 acres to 0.76 acres to account for planting of three coast redwood clusters, which will not be counted toward mitigation area based on resource agency comments.

4. The Final SEIR incorporates revisions to mitigation measures in the biological resources mitigation elements based on coordination with resource agency staff and their comments on the Draft SEIR. The revisions reflect clarification of, and in some cases, expansion of mitigation measures to ensure that the District protects natural resources to the greatest extent practicable and that staff will have appropriate information to prepare adequate permit applications.

5. The Final SEIR incorporates additional Best Management Practices (Appendix D of Final SEIR) based on comments from the San Francisco Bay Regional Water Quality Control Board.

6. The complete Mitigation Monitoring and Reporting Program including all mitigation measures from the 1999 FEIR (that pertain to Reach 5) and all mitigation measures in the Final SEIR is found at Appendix K to the Final SEIR.

D. The Board's Review and Consideration of the Final SEIR

1. The Board has adopted, as its guidelines, the State CEQA Guidelines (Sections 15000-15387, Administrative Code, Title 14, Chapter 3*)* as the basis for its due diligence in evaluating potential impacts. Where available, additional thresholds consideration were also employed to ensure that potential impacts and suitable mitigation measures were identified.

2. The Board has reviewed and considered the information contained in the May 199 Final EIR and the Final SEIR and record of proceedings, including, but not limited to, staff reports, oral and written comments given at public hearings on the Proposed Project or otherwise received by the District, the responses thereto contained in the Final SEIR, and all other matters deemed material and relevant before considering

the Proposed Project for approval. The Final SEIR reflects the independent judgment of the District.

II. SIGNIFICANT IMPACTS WHICH CAN BE MITIGATED TO A LESS THAN SIGNIFICANT LEVEL

The Final SEIR identified potentially significant environmental impacts that, absent of the adoption of mitigation measures, could occur with the implementation of the Proposed Project. The Proposed Project was considered to have potentially significant impacts on biological resources.

The Board finds that, in response to each significant effect identified in the Final SEIR and listed in this Section II, all feasible changes or alterations have been required in, or incorporated into, the Proposed Project which avoid or substantially lessen these environmental effects. With implementation of the proposed mitigation measures described in the Final SEIR and summarized below, the Proposed Project is determined to have less-than-significant impacts on biological resources.

The findings regarding the level of impacts and respective mitigation are not intended to state all of the substantial evidence in the Final SEIR or elsewhere in the record that supports the conclusions stated in these findings. In addition, the mitigation measures are described in an abbreviated fashion -- the Final SEIR should be consulted for a complete description of the requirements of these measures.

A. Biological Resources

1. The Proposed Project will result in impacts to both native and non-native riparian habitat and will remove trees to allow for construction. The Board finds that the removal of riparian vegetation represents a potentially significant environmental impact. This impact will be rendered less than significant by implementing measures that would restore 0.76 acres of riparian trees and shrubs at the project site. (Mitigation Measures BIO-1 and BIO-2).

2. The Proposed Project could result in damage to trees that will not be removed during construction. The loss of riparian vegetation is considered a potentially significant environmental impact by the Board. The District and its contractor(s) will implement measures to protect trees during construction including monitoring construction activities and tree pruning, training of construction staff, and establishment of tree protection zones. Tree protection guidelines have been included as a mitigation measure in the Final SEIR (Mitigation Measures BIO-3 through BIO-9).

3. The Board finds that the Proposed Project could result in significant environmental impacts to freshwater marsh habitat. Although freshwater marsh is expected to naturally re-colonize the site, the District will monitor the site for 5 years to evaluate whether freshwater marsh vegetation has re-established (Mitigation Measure BIO-9.1).

4. The Proposed Project has the potential for disturbance of nesting special status bird species, raptors, and other breeding birds as a result of construction

activities. The Board finds that disturbance of special status wildlife species represents a potentially significant environmental impact. Disturbance of breeding birds could potentially result in a violation of the Migratory Bird Treaty Act and activities that could cause the abandonment of an active nest, eggs, and/or young would represent a potentially significant environmental impact. This impact will be rendered less than significant by carrying out any needed vegetation removal during the non-breeding season (August through mid-January) and installing exclusion netting under West Edith Avenue Bridge such that birds are precluded from using those areas during the construction season (Mitigation Measure BIO-10 and BIO-11). Additionally, pre-construction surveys for nesting birds and raptor nests and construction monitoring for active nests will further reduce this impact to less than significant per Mitigation Measures BIO-12 through BIO-14).

5. The Proposed Project has the potential for loss of habitat for bats roosting within the project site in trees or under West Edith Avenue Bridge, if bats are present at the time of construction. Although surveys have not indicated that bats are currently utilizing the project site for roosting, Mitigation Measure BO-15 will be implemented to reduce this potentially significant impact to less than significant.

6. The Proposed Project has the potential to result in the loss of individual San Francisco dusky-footed woodrat if this species is present during construction. The San Francisco dusky footed woodrat is a California Species of Special Concern. Pre-construction monitoring will be completed to reduce this potentially significant impact to less than significant (Mitigation Measure BIO-16). The mitigation measure also describes an action to take if the species are found during the survey.

7. The Proposed Project has the potential to impact California red-legged frog if the species is present within the stream channel or adjacent upland habitat during construction. Mitigation measure BIO-17, which requires California red-legged frog pre-construction surveys, will be implemented to reduce this impact to less than significant. The mitigation measure also describes an action to take if the species are found during the survey.

III. SIGNIFICANT IMPACTS WHICH CANNOT BE FULLY MITIGATED

The Board finds that the Final SEIR identifies no significant environmental effects of the Proposed Project which cannot be mitigated to levels of insignificance and further finds that all impacts will either be avoided or reduced to a level that is both insignificant and acceptable. All mitigation measures which are included in the Proposed Project and Final SEIR (whether or not they are expressly designated as mitigation measures), or which are referenced in these Findings, or which are included in the MMRP shall be deemed adopted as part of the Board's approval of the Project and certification of the Final SEIR to the extent they have been identified as measures to be undertaken by the District.

IV. ALTERNATIVES ANALYSIS

The CEQA Guidelines require that an EIR describe a range of reasonable alternatives to a project, or to the location of a project, which could feasibly attain the basic objectives of the project, and to evaluate the comparative merits of the alternatives. CEQA Guidelines also require that the range of alternatives considered include a "No Project" alternative. Alternatives were discussed in the 1999 Final EIR of the Adobe Creek Watershed Planning Study and are not discussed in the Final SEIR.

V. SUBSTANTIAL EVIDENCE

Substantial evidence supporting each and every finding made herein is contained in the Final SEIR and/or record of proceedings.

VI. MITIGATION MONITORING AND REPORTING PROGRAM

The MMRP specified in Appendix E of the Final SEIR is limited to the biological resource mitigation measures identified for the Proposed Project. A complete MMRP, including all mitigation measures pertinent to Reach 5 (1999 FEIR and Final SEIR) is included in Appendix K in the Final SEIR.